

1887

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CATALOGUE
OF
YALE UNIVERSITY



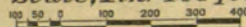
1887-88

MAP OF THE CITY OF NEW HAVEN.



LOCATION OF THE YALE UNIVERSITY BUILDINGS.

Scale, 1 in = 400 ft.



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TO BUILDINGS ON THE CAMPUS.

- A. ATHENEUM
- A. H. ALUMNI HALL
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- D. DURFEE HALL
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- S. SOUTH COLLEGE
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- TR. TREASURY

YORK

HIGH

COLLEGE

NEW HAVEN HOTEL

TEMPLE

POST OFFICE

CHURCH

ORANGE

BLOANE
LABORATORY

KENT
LABORATORY

GYMNASIUM

PEABODY
MUSEUM

LIBRARY ST.

A.

L.

R.R.

TR.

D.H.

A.H.

S.

A.

S.M.

LYC.

N.M.

C.

N.

L.H.

F.

B.C.

STREET

STREET

STREET

STREET

STREET

STREET

WALL

DIVINITY
SCHOOL

GROVE

PROSPECT STREET

HILLHOUSE AVENUE

WHITNEY AVENUE

N.H. & N.R.R.

TRINITY CH.

CENTER CH.

UNITED CH.

THE GREEN

TONTINE HOTEL

LAW SCHOOL AND
COURT HOUSE

TREMONT HOTEL

COURT ST.

CATALOGUE
OF
YALE UNIVERSITY

CLXXXVIIIth YEAR

1887-88



NEW HAVEN:

TUTTLE, MOREHOUSE & TAYLOR, PRINTERS

1887

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ABBREVIATIONS

A., Absent on leave; C., Old Chapel; D., Durfee Hall; E., East Divinity Hall; F., Farnam Hall; L., Lawrance Hall; LYC., Lyceum; N., North College; N. M., North Middle College; N. S. H., North Sheffield Hall; P., Peabody Museum; S., South College; S. H., Sheffield Hall; S. M., South Middle College; TR., Treasury Building; W., West Divinity Hall.

Upon the College Square, the rooms numbered from 1 to 32 are in South College; from 33 to 64 in South Middle College; from 65 to 96 in North Middle College; from 97 to 128 in North College; from 129 to 177 in Farnam Hall; from 178 to 185 in the Lyceum; from 186 to 200 in the Old Chapel; from 201 to 240 in Durfee Hall; from 241 to 282 in Lawrance Hall.

The rooms in East Divinity Hall are numbered from 1 to 54; in West Divinity Hall from 55 to 124.

The rooms in Sheffield Hall are numbered from 1 to 21; in North Sheffield Hall from 26 to 58.

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THE TREASURER'S OFFICE, No. 5 Treasury Building, is open from 9 A. M. to 3 P. M., every week-day during term-time, and from 10 A. M. to 1 P. M., during vacations.

THE SECRETARY is to be found in the Library, every week-day during term-time, from 9.30 A. M. to 1 P. M.

For Catalogues and general information, address THE SECRETARY OF YALE UNIVERSITY, NEW HAVEN, CONNECTICUT.

The Catalogue is published in December of each year, and is sold at twenty-five cents a copy,—or thirty cents if postage is included.

A list of the Graduates of the University (in Latin) is published triennially,—the last edition in 1886; a copy will be supplied to any graduate desiring it, on receipt of the postage (eight cents); copies may be obtained by other persons at cost price, fifty cents, with postage.

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TREASURER

AUDITOR

WILBUR F. DAY

CALENDAR

1887

22 Sept.	Thursday	FIRST COLLEGE TERM begins.
29 Sept.	Thursday	Fall Term, Law School, begins.
1 Oct.	Saturday	School of the Fine Arts, term begins.
6 Oct.	Thursday	First Term, Medical School, begins.
22 Dec.	Thursday	FIRST TERM ends.

Winter Vacation of two weeks.

1888

5 Jan.	Thursday	SECOND COLLEGE TERM begins.
12 Jan.	Thursday	Second Term, Medical School, begins.
12 Jan.	Thursday	Winter Term, Law School, ends.
22 March	Thursday	Junior Exhibition.
28 March	Wednesday	SPRING RECESS begins.
4 April	Wednesday	SPRING RECESS ends.
12 April	Thursday	Spring Term, Law School, begins.
7 May	Monday	Berkeley Scholarship Examination.
14, 15 May	Mon., Tuesd.	Annual Examination, Divinity School.
16 May	Wednesday	Anniversary, Divinity School.
21 May	Monday	Woolsey Scholarship Examination begins.
21 May	Monday	Winthrop Prize Examination.
1 June	Friday	School of the Fine Arts, term ends.
22 June	Friday	DeForest Prize Speaking.
24 June	Sunday	Baccalaureate Sermon.
25 June	Monday	Presentation for Degrees.
26 June	Tuesday	Anniversary of the Society of Alumni.
26 June	Tuesday	Anniversary of the Sheffield Scientific School.
27 June	Wednesday	Anniversary of the Law School.
28 June	Thursday	COMMENCEMENT.
29 June	Friday	Examinations for admission.
30 June	Saturday	

Summer Vacation of twelve weeks.

18, 19 Sept.	Tuesd., Wedn.	Examinations for admission.
20 Sept.	Thursday	FIRST COLLEGE TERM begins.
29 Sept.	Thursday	Fall Term, Law School, begins.
1 Oct.	Monday	School of the Fine Arts, term begins.
4 Oct.	Thursday	First Term, Medical School, begins.
20 Dec.	Thursday	FIRST TERM ends.

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J. PRESTON STRONG, <i>Clerk in the Treasurer's Office</i>	(5 TR.) 506 Howard av.
WILLIAM L. PHELPS, B.A., <i>Superintendent of Dwight Hall</i>	Dwight Hall
HENRY R. GRUENER, <i>Assistant in the Library</i>	(Library) 39 Whiting st.

GOVERNMENT OF THE UNIVERSITY

The legal designation of the Corporation is "THE PRESIDENT AND FELLOWS OF YALE COLLEGE IN NEW HAVEN;" the powers of this body have been granted and confirmed in the following order.

THE COLLEGIATE SCHOOL OF CONNECTICUT, subsequently named YALE COLLEGE, and now commonly called YALE UNIVERSITY, was founded in the summer of the year 1701 by the combined action of a few of the ministers in Connecticut, who obtained in October of the same year a Charter from the Colony Legislature, which runs as follows:—

AN ACT FOR LIBERTY TO ERECT A COLLEGIATE SCHOOL.

WHEREAS several well disposed, and Publick spirited Persons of their sincere Regard to & Zeal for upholding & Propagating of the Christian Protestant Religion by a succession of Learned & Orthodox men have expressed by Petition their earnest desires that full Liberty and Priveledge be granted unto certain Undertakers for the founding, suitably endowing & ordering a Collegiate School within his Majties Colony of Connecticut wherein Youth may be instructed in the Arts & Sciences who thorough the blessing of Almighty God may be fitted for Publick employment both in Church & Civil State. To the intent therefore that all due incouragement be Given to such Pious Resolutions and that so necessary & Religious an undertaking may be sett forward, supported & well managed:—

BE IT ENACTED by the Govern^r & Company of the s^d Colony of Connecticut, in General Court now Assembled, And it is enacted & ordained by the Authority of the same that there be & hereby is full Liberty, Right and Priveledge Granted unto the Reverend Mr. James Noyes of Stonnington, Mr. Israel Chauncey of Stratford, Mr. Thomas Buckingham of Saybrook, Mr. Abraham Pierson of Kennelworth, Mr. Samuel Mather of Windsor, Mr. Samuel Andrew of Millford, Mr. Timothy Woodbridge of Hartford, Mr. James Pierpont of New Haven, Mr. Noadiah Russel of Middletown, Mr. Joseph Webb of Fairfield, being Rev^d Ministers of the Gospel & inhabitants within y^e s^d Colony,

proposed to stand as Trustees, Partners or Undertakers for the s^d School, to them and their successors, To ERECT, form, direct, order, establish, improve and att all times in all suitable wayes for the future to encourage the s^d School in such convenient place or Places, & in such form & manner & under such order & Rules as to them shall seem meet & most conducive to the afores^d end thereof, so as such Rules or Orders be not Repugnant to the Laws of the Civil Governm^t, as also to employ the moneys or any other estate which shall be Granted by this Court or otherwise Contributed to that use according to their discretion for the benefit of the s^d Collegiate School from time to time & att all times henceforward.

And be it further ENACTED by the Authority afores^d that the before named Trustees, Partners or Undertakers together with such others as they shall associate to themselves (not exceeding the number of Eleven, or att any time being less than Seven, Provided also that Persons nominated or associated from time to time to fill up s^d number be ministers of the gospel inhabiting within this Colony & above the Age of forty years) or the major Part of them, the s^d Mr. James Noyes, [etc.] undertakers, & of such Persons so chosen & associated as aboves^d att any time hereafter, HAVE and shall have henceforward the oversight, full & compleat Right, Liberty, power & Priveledge to furnish, direct, manage, order, improve & encourage from time to time & in all times hereafter the s^d Collegiate School so Erected & formed by them in such ways, orders & manner & by such Persons, Rector or Master and officers appointed by them, as shall according to their best discretion be most conducive to attaine the afores^d mentioned end thereof. . . .

It is also further Enacted by the Authority afores^d that the s^d Undertakers & Partners & their successors be & hereby are further impowered to have, accept, acquire, purchase or otherwise lawfully enter upon Any Lands, Tenements & Hereditam^{ts} to the use of the s^d School, not exceeding the value of five hundred Pounds p^r Anñ, & any Goods, Chattels, Sum or Sums of money whatsoever as have heretofore already been Granted, bestowed, bequeathed or given, or as from time to time shall be freely given, bequeathed, devised or settled by any Person or Persons whatsoever upon & to & for the use of y^e s^d School towards the founding, erecting or endowing the same, & to sue for, Recover & receiv all such Gifts, Legacies, bequests, annuities, Rents, issues & profits arising therefrom & to employ the same accordingly, & out of y^e estate, Revenues, Rents, profits, incomes accruing & belonging to s^d School to support & pay as the s^d Undertakers shall agree & see cause, the s^d Rector or Master, Tutors, Ushers or other officers their Respective annual Salaries or Allowances. As also for the encouragem^t of the Students to grant degrees or Licences as they or those deputed by them shall see cause to order & appoint.

Under this Charter the Collegiate School was begun at Saybrook, in November, 1701, where it continued until its removal to New Haven, in October, 1716. In September, 1718, the name of YALE COLLEGE was given by the Trustees to the School, in honor of the benefactions of ELIHU YALE, of London, lately Governor of the East India Company's settlement at Madras.

In 1723 an "ACT IN EXPLANATION OF AND ADDITION TO THE ACT FOR ERECTING A COLLEGIATE SCHOOL" was passed by the General Assembly, with the following provisions:—

WHEREAS Pursuant to the Powers and Priviledges granted to Certain Trustees for Erecting a Collegiate School in this Colony Entituled an Act for a Collegiate School, the Said Trustees have Erected the Said School in the Town of New-Haven which School is now known by the Name of Yale Colledge; And Whereas it appears to this Assembly that an Explanation and Enlargement of the powers and priviledges granted by Said Act is Necessary for the Carrying on the Affairs of the Said Colledge, for want of which it has Laboured under great difficulties very much to the prevention of that Order and good Education which is to be desired there:

Bee it therefore Enacted by the Governour, Council and Representatives in Generall Court assembled and by the Authority of the Same that the Said Act which provides that the Number of the Said Trustees be not under Seven nor above Eleven is not to be Understood or Taken so as to be restrictive of the power of the Said Trustees Never to Choose any person to be a Trustee, when there is of Such persons as have been Chosen and Acted as Trustees Eleven persons Living in the Colony or Elsewhere, but that in Case any person so Chosen be by Providence Incapacitated from attending that Service or shall himself decline the Same thro' the Necessity of his own Affairs or for any other such Reason as he shall Judge requisite, the Trustees in any of their Meetings Lawfully Called may be Understood to have and it is hereby Enacted and declared that they shall be Taken to have full power by the Majority of Such Meeting to proceed to the Choice of Another Trustee in the Room of any such person. And it is hereby further declared and Enacted to be the True Intent and Meaning of the Act afores^d that the said Trustees shall be Impowered and they are hereby declared to have power to Meet Together for Considering, Advising about and Resolving upon all Matters belonging to the Trust of the Said Colledge committed unto them as afores^d and to Agree and Conclude, Order and determine Concerning them by the Majority of the

Said Meeting, and by the same Majority to Choose and Appoint a Clerk who shall, in a fair book prepared for that End, Register and Carefully preserve the Acts of all such Meetings.

And WHEREAS it has been doubted what Number of the Said Trustees may be Lookt upon as a Sufficient or full Meeting, Inasmuch as there is not in the afores^d Act any Express mention made of any Meeting of the said Trustees; It is therefore to prevent all Scruple of that kind for the future hereby provided and declared that due Notice being given to the Trustees by Consent of any three of them of a Meeting of the Trustees desired at any Time or place, any Seven or more of the Trustees present at such Time and place shall be Esteemed a full Meeting. And it is hereby declared and Enacted that in all such Meetings, so Called, or Otherwise as the said Trustees in any such Meeting shall agree, all affairs under the Care of the said Trustees shall be determined by the Majority of such Meeting.

And WHEREAS it has been found Inconvenient that in the Election of Persons to be Trustees, the Trustees Election by the afores^d Act should be Limited and restrained so as that the Person who shall be Chosen must Necessarily be fourty Years of age; It is hereby declared and Enacted that for the future the said Trustees in any Election of a person into that Trust shall not be Esteemed or held Obliged by said Act to Choose such a person as shall be above fourty Years of Age, but may Choose such a person otherwise Qualified According to said Act, Provided he is thirty Years of Age. And it is further hereby Allowed, Enacted, Granted and Provided that whosoever shall be Chosen and made a Rector of the said Colledge shall by Virtue thereof become a Trustee of the same and be so Esteemed and Taken during his Continuance in the said Rectorship.

In 1745 a thoroughly revised Charter was granted by the Assembly, the permanent provisions of which are as follows:—

An ACT for the more full and complete Establishment of YALE COLLEGE in NEW HAVEN, and for enlarging the powers and Privileges thereof.

WHEREAS upon the Petition of several well disposed and public-spirited Persons expressing their desire that full Liberty and Privilege might be granted unto Certain Undertakers for the founding, suitably endowing and ordering a *Collegiate School*, within this Colony, wherein Youth might be instructed in the Arts and Sciences, the Governor and Company of the said Colony in General Court assembled at *New Haven*, on the Ninth Day of October, in the Year of our Lord

1701, Granted unto the Rev'd Messrs. *James Noyes* [etc.], who were proposed to stand as Trustees, Partners or Undertakers for the Society, and to their Successors, full Liberty, Right and Privilege to erect, form, direct, order, establish, improve, and at all Times in all suitable Ways to encourage the said School in some convenient Place in this Colony and granted sundry Powers and Privileges for the attaining the End aforesaid;

And Whereas the said Trustees, Partners or Undertakers in pursuance of the aforesaid Grant, Liberty and License, founded a *Collegiate School* at *New Haven*, known by the Name of YALE COLLEGE, which has received the favorable Benefactions of many liberal and piously disposed Persons, and under the Blessing of Almighty God has trained up many worthy Persons for the Service of God in the State as well as in the Church;

And Whereas the General Court of this Colony assembled at *New Haven*, the Tenth Day of October, in the Year of our Lord 1723, did explain and enlarge the aforesaid Powers and Privileges granted to the aforesaid Partners, Trustees or Undertakers and their Successors, for the Purpose aforesaid; as by the respective Acts, reference thereto being had, more fully and at large may appear;

And Whereas the Rev'd Messrs. *Thomas Clap*, *Samuel Whitman*, *Jared Eliot*, *Ebenezer Williams*, *Jonathan Marsh*, *Samuel Cooke*, *Samuel Whittelsey*, *Joseph Noyes*, *Anthony Stoddard*, *Benjamin Lord*, and *Daniel Wadsworth*, the present Trustees, Partners and Undertakers of the said School, and Successors of those beforementioned, have petitioned, that the said School, with all the Rights, Powers, Privileges and Interests thereof, may be confirmed, and that such other additional Powers and Privileges may be granted as shall be necessary for the Ordering and Managing the said School in the most advantageous and beneficial Manner for the promoting all good Literature in the present and succeeding Generations:

Therefore,

THE GOVERNOR and COMPANY of his Majesty's said English Colony of *Connecticut* in General Court assembled, this Ninth Day of *May*, in the Year of our Lord 1745, enact, ordain, and declare, and by these Presents it is enacted, ordained and declared—

That the said *Thomas Clap* [etc.], shall be an *Incorporate Society* or *Body Corporate and Politic*, and shall hereafter be called and known by the name of THE PRESIDENT AND FELLOWS OF YALE COLLEGE in NEW HAVEN, and that by the same Name they and their Successors shall and may have perpetual Succession, and shall and may be Persons in the Law capable to plead and be impleaded, defend and be defended, and answer and be answered unto; and also to have, take, possess, acquire, purchase or otherwise receive Lands, Tenements, Hereditaments, Goods, Chattels, or other Estates, and the same Lands, Tenements,

Hereditaments, Goods, Chattels or other Estates to grant, demise, lease, use, manage or improve for the Good and Benefit of the said *College*, according to the Tenor of the Donation, and their Discretion.

That all Gifts, Grants, Bequests, and Donations of Lands, Tenements, or Hereditaments, of Goods and Chattels heretofore made to or for the Use, Benefit and Advantage of the *Collegiate School* aforesaid, whether the same be expressed to be made to the President or Rector, and to the rest of the Incorporate Society of *Yale College*, or to the Trustees or Undertakers of the *Collegiate School in New Haven*, or to the Trustees by any other Name, Style or Title whatsoever, whereby it may be clearly known and understood that the true Intent and Design of such Gifts, Grants, Bequests and Donations, was to or for the Use, Benefit and Advantage of the Collegiate School aforesaid, and to be under the Care and Disposal of the Governors thereof, shall be confirmed, and the same hereby are confirmed, and shall be and remain to, and be vested in the President and Fellows of the *College* aforesaid, and their Successors, as to the true and lawful Successors of the original Grantees.

That the said PRESIDENT AND FELLOWS and their Successors shall and may hereafter have a common Seal, to serve and use for all Causes, Matters and Affairs of them and their Successors, and the same Seal to alter, break and make new as they shall think fit.

That the said THOMAS CLAP shall be, and he is hereby established the present PRESIDENT, and the said *Samuel Whitman*, [etc.] shall be, and they are hereby established the present FELLOWS of the said College, and that they and their Successors shall continue in their respective Places during Life, or until they or either of them shall resign, or be removed, or displaced, as in this Act is hereafter expressed.

That there shall be a General Meeting of the *President and Fellows* of said *College*, in the College Library on the second Wednesday of September annually, or at any other Time and Place which they shall see Cause to appoint, to consult, advise and act in and about the Affairs and Business of the said College; and that on any special Emergency, the President and two of the Fellows, or any four of the Fellows, may appoint a Meeting of the said College, provided they give Notice thereof to the Rest by Letters sent and Left with them, or at the Places of their respective Abode, five Days before such Meeting; and that the President and six Fellows, or in Case of the Death, Absence, or Incapacity of the President, seven Fellows, convened as aforesaid (in which Case the eldest Fellow shall preside), shall be deemed a Meeting of the President and Fellows of said College, and that in all the said Meetings, the Major Vote of the Members present shall be deemed the Act of the Whole, and where an Equivote happens, the President shall have a casting Vote.

That the President and Fellows of the said College and their Successors, in any of their Meetings assembled as aforesaid, shall and may

from Time to Time, as Occasion shall require, elect and appoint a President or Fellow in the Room and Place of any President or Fellow who shall die, resign, or be removed from his Office, Place or Trust (whom the said Governor and Company hereby declare, for any Misdemeanor, Unfaithfulness, Default or Incapacity, shall be removable by the President and Fellows of the said College; Six of them, at least, concurring in such Act); and shall have Power to appoint a Scribe or Register, a Treasurer, Tutors, Professors, Steward and all such other Officers and Servants, usually appointed in Colleges or Universities, as they shall find necessary and think fit to appoint for the promoting good Literature, and the well ordering and managing the Affairs of said College; and them or any of them, at their Discretion, to remove; and to prescribe and administer such Forms of Oaths (not being contrary to the Laws of England or of this Colony) as they shall think proper, to be administered to all the Officers and Instructors of the said College, or to such and so many of them as they shall think proper, for the faithful Execution of their respective Places, Offices and Trusts.

That the President and Fellows shall have the Government, Care and Management of the said College and all the Matters and Affairs thereunto belonging, and shall have Power from Time to Time, as Occasion shall require, to make, ordain and establish all such wholesome and reasonable Laws, Rules and Ordinances, not repugnant to the Laws of England, nor the Laws of this Colony, as they shall think fit and proper for the Instruction and Education of the Students, and Ordering, Governing, Ruling and Managing the said College, and all Matters, Affairs, and Things thereunto belonging, and the same to Repeal and alter as they shall think fit.

That the President of said College, with the Consent of the Fellows, shall have Power to give and confer all such Honors, Degrees or Licenses as are usually given in Colleges or Universities, upon such as they shall think worthy thereof.

In 1792 a grant of money from the State of Connecticut was received, upon the condition that certain State officials should become members of the board of Fellows, as below expressed:—

In case this grant shall be accepted, in manner as hereinafter provided, the Governor, Lieutenant Governor, and six senior assistants in the Council* of this State, for the time being, shall ever hereafter, by virtue of their said offices, be Trustees or Fellows of said college; and shall together with the present President and Fellows of said College, and their successors, constitute one corporation, by the name and style

* Changed in 1819 to the six senior senators.

mentioned in the charter of said College; and shall have and enjoy the same powers, privileges, and authority, in as full and ample a manner, as though they had been expressly named and included in said charter; And that in case of vacancy, by the death, or resignation, or in any other way, of any of the present Fellows of said College, and their successors, every such vacancy shall forever hereafter be supplied by them, and their successors, by election, in the same manner as though this act had never passed.

In the new Constitution of the State, adopted in 1818, the privileges conferred by the Charter were reaffirmed, as follows:—

ARTICLE VIII, SECT. I.

The charter of Yale College, as modified by agreement with the Corporation thereof, in pursuance of an Act of the General Assembly, passed in May, 1792, is hereby confirmed.

In 1872, at the request of the Corporation, an Act was passed by the General Assembly, providing (as follows) for the substitution of graduates in the place of the six senators among the Fellows:—

SECTION 1.—All graduates of the first degree, of five or more years' standing, in any of the departments of Yale College, and all persons who have been admitted to any degree higher than the first in Yale College, whether honorary or in course, may, on the day next preceding the public commencement day of said College, in the year of our Lord 1872, cast their votes, under such regulations as the President and Fellows may prescribe, for six persons to be chosen from among such graduates; and the six persons who shall be found to be elected by a plurality of the votes cast, shall be the Fellows of Yale College in the stead of the six senior senators of the State, and shall have all the rights, duties, and privileges as Fellows which are now by law conferred upon said senators. In case of an equality of votes between two or more candidates, the person who shall hold the said office of Fellow shall be designated by lot from among the persons receiving such equality of votes.

SECTION 2.—The Fellows thus elected shall enroll themselves by lot in six classes, one holding the office for six years, another for five years, another for four years, another for three years, another for two years, and another for one year, eligible for re-election; and every year as a vacancy occurs, all graduates of the first degree, of five or more years' standing

in any of the departments of Yale College, and all persons who have been admitted to any degree higher than the first in Yale College, whether honorary or in course, may, upon the day next preceding commencement day, in the manner heretofore prescribed, elect by a plurality of votes a person to fill the vacancy, and hold the office of Fellow for a period of six years, eligible for re-election; and so whenever a vacancy shall occur from death, resignation, or any other cause, such graduates may elect a person at the next commencement to fill the office of Fellow for the remainder of the term in which a vacancy has occurred. The official year of such Fellows shall end with the day next preceding each commencement day.

In January, 1887, an Act passed the General Assembly of the State, authorizing the use of the title "Yale University" by the President and Fellows of Yale College, and providing that gifts to, contracts with, conveyances to or by, and other acts affecting said Corporation by either of the names specified shall be valid.

DEPARTMENTS OF INSTRUCTION

The courses of study offered in the University are comprehended in four Departments, under the control of the Corporation, each Department being also under the administration of a distinct Faculty of instruction. The Departments are as follows:—

THE DEPARTMENT OF PHILOSOPHY AND THE ARTS,
THE DEPARTMENT OF THEOLOGY,
THE DEPARTMENT OF MEDICINE,
THE DEPARTMENT OF LAW.

Under the first-named Department are included two separately organized sections in which instruction for undergraduates is provided, viz:—

THE ACADEMICAL DEPARTMENT, and
THE SHEFFIELD SCIENTIFIC SCHOOL;

also, THE SCHOOL OF THE FINE ARTS, with a special organization; and The Courses for GRADUATE INSTRUCTION, under the combined Faculty of the Department.

It is to be understood that the courses of instruction above described are open to persons of the male sex only, except when both sexes are specifically included.

The LIBRARY, the PEABODY MUSEUM OF NATURAL HISTORY, and the OBSERVATORY are severally organized independently of the special Departments, and are designed to contribute, in their appropriate spheres, to the instruction and advancement of the whole institution.

ACADEMICAL DEPARTMENT

(YALE COLLEGE)

FACULTY

REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT
REV. NOAH PORTER, D.D., LL.D., *Professor of Moral Philosophy and Metaphysics*
ELIAS LOOMIS, LL.D., *Professor of Natural Philosophy and Astronomy*
JAMES D. DANA, PH.D., LL.D., *Professor of Geology and Mineralogy*
EDWARD J. PHELPS, LL.D., *Professor of Law*
HUBERT A. NEWTON, LL.D., *Professor of Mathematics*
ARTHUR M. WHEELER, M.A., *Professor of History*
J. WILLARD GIBBS, PH.D., *Professor of Mathematical Physics*
ARTHUR W. WRIGHT, PH.D., *Professor of Experimental Physics*
EUGENE L. RICHARDS, M.A., *Assistant Professor of Mathematics*
WILLIAM I. KNAPP, PH.D., *Professor of Modern Languages*
FRANKLIN B. DEXTER, M.A., *Professor of American History, and Registrar*
TRACY PECK, M.A., *Professor of Latin*
REV. CORNELIUS L. KITCHEL, M.A., *Instructor in Greek*
WILLIAM G. SUMNER, LL.D., *Professor of Political and Social Science*
REV. GEORGE T. LADD, D.D., *Professor of Mental and Moral Philosophy*
HENRY P. WRIGHT, PH.D., *Professor of Latin, and Dean*
HENRY A. BEERS, M.A., *Professor of English Literature*
EDWARD S. DANA, PH.D., *Assistant Professor of Natural Philosophy*
THOMAS D. SEYMOUR, M.A., *Professor of Greek*
FRANK A. GOOCH, PH.D., *Professor of Chemistry*
WILLIAM L. CUSHING, M.A., *Instructor in Latin*
WILLIAM BEEBE, B.A., *Assistant Professor of Mathematics and Astronomy*
ANDREW W. PHILLIPS, PH.D., *Assistant Professor of Mathematics*
GEORGE BENDELARI, B.A., *Assistant Professor of Modern Languages*
ALFRED L. RIPLEY, B.A., *Assistant Professor of German*
HORATIO M. REYNOLDS, B.A., *Tutor in Greek*
FRANK P. GOODRICH, B.A., *Instructor in German*
WALTER R. BRIDGMAN, B.A., *Tutor in Greek*

- J. ERNEST WHITNEY, B.A., *Instructor in English*
 FRANK F. ABBOTT, B.A., *Tutor in Latin*
 EDWARD T. McLAUGHLIN, B.A., *Tutor in English*
 ELIAKIM H. MOORE, JR., PH.D., *Tutor in Mathematics*
 HORACE D. TAFT, B.A., *Tutor in Latin*

OTHER INSTRUCTORS

- WILLIAM D. WHITNEY, PH.D., LL.D., *Professor of Comparative Philology and Sanskrit*
 MARK BAILEY, M.A., *Instructor in Elocution*
 WILLIAM C. ROBINSON, LL.D., *Professor of Law*
 DANIEL C. EATON, M.A., *Professor of Botany*
 JAMES K. THACHER, M.D., *Professor of Zoology*
 WILLIAM R. HARPER, PH.D., *Professor of the Semitic Languages*
 REV. JOHN E. RUSSELL, M.A., (*Professor of Biblical Theology*), *Instructor in Logic*
 ARTHUR T. HADLEY, M.A., *Professor of Political Science*
 JAY W. SEEVER, M.D., *Instructor in Gymnastics and Practical Hygiene*
 EDWARD G. BOURNE, B.A., *Instructor in Mediaeval History*

From the date of the original Charter, in 1701, a course of instruction leading to the degree of Bachelor of Arts has been continuously offered at the College; at first only three years of undergraduate study were required, but before 1710, a four years' course was provided, which has been since maintained.

Until 1813, when a Medical School was organized, no other course of study for a degree was marked out at Yale College; but with the incorporation of the Medical Institution (as it was originally styled) the older Department began to be designated The Academical Institution (or Department), and has continued to be so designated until at length, with the growth of other Schools about it and the expansion of the whole into Yale University, the original title of Yale College has again come to be applied distinctively to this Department.

TERMS OF ADMISSION.

ALL CANDIDATES FOR ADMISSION to the Freshman Class are examined in the following books and subjects:

1. Latin Grammar.
 2. Caesar—Gallic War, books i-iv.
 3. Cicero—Orations against Catiline and for Archias, and, in addition, either the Marcellus and the 14th Philippic, or the Milo, or the Manilian Law, or the Cato Major.
 4. Vergil—Bucolics, and first six books of the Aeneid, including Prosody.
 5. Ovid—Metamorphoses, translation at sight.
 6. The translation, at sight, of passages from prose Latin.
 7. The translation into Latin of connected passages of English prose. [As special importance is given to this part of the examination, it is suggested to teachers that they connect exercises in making Latin, both oral and written, with all the Latin studies of the preparatory course.]
 8. Roman History, to the death of Augustus.
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9. Greek Grammar.
 10. Xenophon—Anabasis, four books.
 11. Homer—Iliad, three books, with Prosody.
 12. The translation, at sight, of a passage from some work of Xenophon.
 13. The translation of English into Greek: Jones's Exercises, White's Lessons, and Keep's Lessons are suggested, as indicating the preparation required.
 14. Greek History.
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15. Higher Arithmetic—including the metric system of weights and measures.
 16. Algebra—so much as is included in Loomis's Treatise, up to the chapter on Logarithms.
 17. Plane Geometry.
-
18. French or German—so far as to translate at sight easy prose, the candidate being at liberty to decide for himself in which of the two languages he shall be examined.

Candidates are allowed to divide the examination, with an interval of not less than one year between the two parts. In such cases, they must present themselves at the *June* examination of the first year; and at this preliminary examination each candidate must submit a definite statement from his principal instructor of the subjects which he is authorized to offer. No candidate will be allowed to offer French, German, Geometry, the translation at sight of prose Latin, or of prose Greek, at a preliminary examination; and at the close of such an examination, no certificate of partial admission will be furnished, unless at least six subjects have been satisfactorily passed.

THE REGULAR EXAMINATION FOR ADMISSION to College is held at Alumni Hall, New Haven, on Thursday, Friday, and Saturday after Commencement (June 28, 29, 30, 1888): *attendance is required at the opening of the examination, at 9 A. M. on Thursday*, and the sessions will close Saturday noon. The examination is wholly in writing; a set of papers recently given will be sent by the Secretary on application.

In 1888 examinations (beginning on Thursday, June 28, at 9 A. M., and closing Saturday noon) for admission to the Freshman Class (but not to higher classes) will also be held in Exeter, N. H., Andover, Mass., New York City, Chicago, Cincinnati, and San Francisco, at places to be announced in the local newspapers of the day previous. Candidates who propose to be present (elsewhere than at New Haven) are requested to send their names to the Secretary before June 15. A fee of five dollars is charged for admission to examinations outside of New Haven. The College is also prepared to hold an examination, at the above-named time, in any city or at any school where the number of candidates and the distance from other places of examination may warrant it; applications for this purpose must be sent to the Secretary before May 15.

A second examination is held in New Haven at the beginning of the College year, on Tuesday and Wednesday (Sept. 18, 19, 1888); candidates for this examination must be present at Alumni Hall at 9 A. M. on Tuesday.

Persons applying for admission to any of the classes in College during the course of the College year (that is, from September to June) must first obtain from the Faculty permission to be examined, and pay to the Treasurer a fee of ten dollars.

In general, examinations for admission to the next Freshman Class can be held only in June and September as specified; if in any case sufficient reason exists for an exception to this rule, a special fee (not exceeding fifty dollars) will be charged.

ADVANCED STANDING—All candidates for advanced standing, *whether from other Colleges or not*, are examined, in addition to the preparatory studies, in those studies already pursued (see pp. 32 ff.) by the class which they wish to enter. In the several languages, for the particular books studied by the class equivalent amounts from other books may be offered. Certificates of standing elsewhere cannot be accepted in place of these examinations, although they may be taken into account as collateral evidence of fitness for admission.

Bachelors of Arts or of Philosophy of any institution may join the Senior Class (without examination and without becoming candidates for the Bachelor's degree), as candidates for the degree of Doctor of Philosophy after three years' study.

No one can be admitted to the Senior Class after the beginning of the second term.

AGE—No one can be admitted to the Freshman Class till he has completed his fifteenth year, nor to an advanced standing without a corresponding increase of age.

TESTIMONIALS—Satisfactory testimonials of good moral character (preferably from the last principal instructor) are in all cases required, before a certificate of admission in full can be granted. Students from other Colleges must present certificates of dismissal in good standing.

BOND—Every person must give to the Treasurer, on being admitted, a bond, executed by his parent or guardian, for five hundred dollars, as security for the payment of

charges arising under the laws of the College. A blank form for this purpose will be furnished at the time of admission.

GOVERNMENT AND INSTRUCTION

The Dean has the general supervision under the Faculty of the Senior and Junior Classes; the members of the two lower Classes are assigned by divisions for a similar supervision to the care of the several instructors in those Classes. Absence from College exercises will be excused only for extremely urgent reasons. In general, a student cannot be excused for absence at the beginning or near the end of a term.

In order to cover all cases of absence which may seem justifiable to the student, but for which no excuses will be accepted, an allowance is granted to a member of the Senior or Junior Class of absence from eight class-room exercises (recitations, lectures, or rhetorical appointments), and to a member of the Sophomore or Freshman Class from six class-room exercises, during the first term and during each half of the second term, without incurring marks and without affecting his record for scholarship; provided that these absences shall not immediately precede or follow a vacation or recess; provided, also, that no two absences shall be consecutive in any one study, and that such absences shall not excuse the student from preparation upon the omitted lessons when reviewed.

The members of each of the three lower classes are arranged at the beginning of each term in divisions according to scholarship. During the present year, for required work the Senior Class is divided into two divisions, the Junior Class into three, the Sophomore Class into five, and the Freshman Class into six divisions; in the elective courses, the divisions are of convenient size for class-room work.

Greek, Latin, Mathematics, and English, occupy thirteen hours of class-room work per week in Sophomore year and the first term of Freshman year, and twelve

hours per week during the second term of Freshman year. Three hours of class-room work per week during Freshman year, and two hours per week during Sophomore year, are given to Modern Languages.

If a student can pass a satisfactory examination in any of the prescribed studies for the work of one year in advance, he may be allowed to choose from the list of Electives (see p. 35) some other course which he is qualified to pursue with advantage, covering the same number of hours.

In the Freshman and Sophomore years all the work is *prescribed*. The kind and amount of study in these two years are believed to be such as are essential for laying the foundation of a liberal education, whatever the department or profession that may be pursued in after-life; and no more than is needed to give the student a proper basis of knowledge and discipline for the study of the *elective* courses which follow, and that knowledge of himself, and of the subjects before him which is needed for a judicious choice. The basis is necessarily a broad one. The only prominent departments not now in this foundation, either in the preparatory or college work, though pursued in the later elective courses, are those of the Natural Sciences and Chemistry. As some knowledge of these departments, of their methods of reasoning, of the use of the words "species" and "genus," and some idea of the system of nature is essential to the student of almost any branch of philosophy, as well as to those who may take the elective courses in these sciences, it is recommended that the student should include the study of the elements of some departments of the Natural Sciences, and of Chemistry, in his preparation for College.

Of the work of the Junior year a little more than half and of that of the Senior year four-fifths is in elective courses. The whole number of elective studies open to the two classes is at the present time ninety-two; and in addition there are several courses of lectures, attendance on which is optional. The Juniors have open to them

elective studies in the English language and Literature, History, Political Science, and the Natural Sciences, in addition to those in the departments of the Classics, the Modern Languages, and Mathematics; and the Seniors, electives under all these departments, along with others of higher range as particularly explained below.

Many of the courses fall naturally into groups: as that of the Ancient Languages and Linguistics; Psychology, Logic, and Philosophy, with Ethics; Political Science and Law; History; Modern Languages and Literature; Mathematics and Physics; Chemistry and the Natural Sciences; and the student is recommended to select his courses as far as possible according to his needs, in part perhaps according to his expectations as to future work, fixing first upon the chief subject, and selecting others that are subsidiary to it. In several cases, related courses are accessible to the student only as they are taken consecutively.

To promote the rational choice of elective courses, SPECIAL HONORS in the various groups of studies are offered, to be given at the end of the Senior year, in accordance with the scheme on a later page.

THE PROGRAM OF STUDIES for the current year is as follows:

FRESHMAN YEAR:

Greek—Two books of Homer's Iliad; three books of Homer's Odyssey; the Alcestis of Euripides; the first book of Herodotus; Xenophon's Cyropaedia; Greek Prose Composition. (Students especially proficient in Greek will be assigned to an advanced section.)

Latin—Cicero *De Senectute* and *De Amicitia*; Livy, books xxi and xxii; the Satires of Horace; Latin Prose Composition; Early Roman History (through the Second Punic War).

French or German—Three hours a week throughout the year. Students may at their option either continue the study of the modern language presented for admission to college, or begin the study of German in case they have not previously pursued it. Those who have sufficient knowledge of either language will be assigned to classes still further advanced.

Mathematics—In *Geometry*: Planes, Polyhedrons, Cones, Cylinders, and Spheres. Projection of figures with exercises on Models. Text-book, Chauvenet's Geometry.

Plane Trigonometry: Solution of Triangles, Mensuration and Surveying. Text-book, Richards's Trigonometry.

Algebra: The Geometrical interpretation of the Theory of Equations, Imaginaries, and the Solution of Higher Equations. Text-book, Phillips & Beebe's Graphic Algebra.

SOPHOMORE YEAR:

Greek—The first book of Thucydides; Oedipus Tyrannus of Sophocles; Seven against Thebes of Aeschylus; Bacchantes of Euripides; Clouds of Aristophanes.

Latin—Agricola and Germania of Tacitus; Odes and Epodes of Horace (70 pp.); Selections from Catullus (40 pp.); Mostellaria of Plautus; Andria of Terence; selections from the Annals of Tacitus; Roman Antiquities.

Modern Languages—Advanced French, or advanced German, at the option of the student, two hours a week throughout the year. Those who so desire may begin the study of German, in case they have never pursued it.

Mathematics—*Trigonometry*: Trigonometric Analysis. Spherical Trigonometry. Applications to Navigation and Astronomy. Text-book, Richards's Trigonometry.

Analytical Geometry: Plane and Solid, with Applications to Map Projection. Text-book, Loomis's Analytical Geometry.

Mechanics—The elementary principles of Kinematics, Kinetics (or Dynamics), and Statics, in reference to solid bodies, with practical applications. Text-book, Dana's Mechanics.

English Literature—Shakspere: *1 Henry IV.*, *Twelfth Night*, *Julius Caesar*, *Hamlet*, and *Tempest*. Essayists: see *Rhetoric*.

Rhetoric—Selections from leading English essayists from Addison to Ruskin, with rhetorical analysis; connected through the 1st Term with weekly exercises in extempore composition. During the remainder of the year, five essays.

JUNIOR AND SENIOR YEARS:

The *prescribed* courses of Junior year occupy seven hours per week, and those of Senior year three hours per week. In addition, each member of the Junior class is required to select eight hours per week, and each member of the Senior class twelve hours per week, from the list of *elective* courses.

PRESCRIBED STUDIES OF JUNIOR YEAR:

Physics—Ganot's *Physics*: during the first term the subjects of Liquids, Gases, Sound, and Light, and part of the subject of Heat, with experimental illustrations in the class-room; during the second term, Heat continued, followed by Electricity and Magnetism, with weekly experimental lectures on these three subjects.

Astronomy—Loomis's *Treatise on Astronomy*.

Logic—Jevons's *Lessons in Logic*; Fowler's *Inductive Logic*; exercises in the criticism of arguments; lectures.

Psychology—Porter's *Elements of Intellectual Science*, Introduction, First and Second Parts; Lotze's *Outlines of Psychology*; lectures.

PRESCRIBED STUDIES OF SENIOR YEAR:

Psychology—Porter's *Elements of Intellectual Science*, Third and Fourth Parts; Lotze's *Outlines of Psychology*; lectures.

Ethics—Porter's *Elements of Moral Science*.

Theism, and the Evidences of Christianity—lectures.

RHETORIC AND ELOCUTION:

Rhetoric—English Composition. Four or five themes a year are required from each member of the Senior, Junior, and Sophomore classes; these themes are read and corrected by the instructors in Rhetoric. For premiums in this department see p. 65.

Elocution—Sophomore Year: Lectures on the Science and Art of Elocution,—logical analysis,—vocal analysis, expression, and culture,—oratorical action. Practice in speaking and recitation by sub-divisions of twelve each. Individual instruction and private drill in preparation for speaking in divisions of eighteen per week before the class and the Professor of Rhetoric for the "Prizes for Declamation."

Junior Year: Three weeks of preparatory training for the speakers at the Junior Exhibition.

Senior Year: Three weeks of preparatory training for the speakers at Commencement.

ELECTIVE COURSES

Juniors select eight hours per week, and Seniors twelve hours per week, from the following list. All the courses are open to members of either class, unless some limitation is specified. The number of hours specified means, in every case, hours per week. When a course is stated as occupying "both terms," it cannot, if chosen, be abandoned during the year.

I. MENTAL AND MORAL SCIENCE

Ex-President PORTER:—

1 *Philosophy*. [Seniors.] 2 hrs. 1st term.
Locke and his critics.

2 *Philosophy*. [Seniors.] 2 hrs. 1st term.
J. S. Mill on Sir William Hamilton.

3 *Ethics*. [Seniors.] 2 hrs. 2d term.
History and criticism of modern theories.

Professor LADD:—

4 *Physiological Psychology*. 2 hrs. both terms.
A study (illustrated by charts and models) of the human nervous mechanism, of the principal relations which exist between changes in this mechanism and the activities of the mind, and a discussion of the conclusions which may be drawn from these relations respecting the nature and laws of the mind.

5 *Modern Philosophy*. [Seniors.] 2 hrs. both terms.
A survey of the development of philosophical thought from Descartes to Lotze and Herbert Spencer, with a special examination of the main problems of philosophy, in the form in which they were brought forward by Kant, and have been discussed subsequently with reference to his philosophical thinking.

II. POLITICAL SCIENCE AND LAW

Professor SUMNER:—

8 *Political Economy*. 2 hrs. both terms.
Mill and Cairnes, and selected chapters from Fawcett.

9 *Political Economy*. 3 hrs. both terms.
Mill and Cairnes, with selected passages from Adam Smith, Jevons, and Marshall, and study of economic problems which illustrate and apply the principles; theses and discussions.

10 *Political Economy*. 2 hrs. both terms.
Elementary text-books on Political Economy and American currency and banking.

11 *Political Economy*. 3 hrs. both terms.
Fawcett; Jevons on Money, and American currency and banking.

The above four courses cover the same ground, viz: the elements of Political Economy. There are two long, and two short

courses. The two long courses are so distinguished that one makes far more demands on the powers and industry of the student than the other. A similar distinction is made between the two short courses. All use text-books and have set lessons, but the work of course 9 is so planned as to demand more independent exertion on the part of the student than any other. Either of the long courses taken in Junior year is the proper introduction to a course of study in this general department. Either of the short courses (which may be taken in either year according to convenience), will give a knowledge of the elements of Political Economy to one whose attention is chiefly devoted to some other line of study.

12 *Finance*. [Seniors.] 1 hr. both terms.

A second-year course in money, banking, public debts, foreign exchange and taxation. The exercises will consist of papers on assigned topics. Open only to those who have taken Political Economy.

13 *Anthropology*. [Seniors.] 1 hr. both terms.

A very elementary course in pre-historic science and the origin of civilization; introduction to ethnology and sociology. Tylor's *Anthropology*. Open only to those who have taken Political Economy.

Professor HADLEY :—

14 *Industrial History of the United States since 1850*.

[Seniors.] 2 hrs. 1st term.

Open only to those who have studied Political Economy and are ready to do original work in collecting and arranging statistics.

15 *Modern Economic Theories*. [Seniors.] 2 hrs. 2d term.

An account of some of the attacks upon the current doctrines of Political Economy, especially on the part of the socialists. Open only to those who have completed a course in Political Economy.

Professor ROBINSON :—

16 *Municipal and International Law*. [Sen.] 2 hrs. both terms.

The course will consist of lectures, select readings, recitations and periodical examinations on the following topics in the order given: Law in its relations to the origin and development of political society; law in its relations to the government of political society; origin and development of the common law; statute law and its relations to the common law; formation and development of codes; literature of the law; origin and procedure of

courts of law and equity; nature and origin of legal rights; private rights; rights to persons and legal remedies for their violation; rights to property and legal remedies for their violation; public rights; rights of citizens against states as guaranteed and enforced by constitutional law; rights of states against citizens as illustrated and enforced by criminal law; national rights and duties; principles of international law.

Under the foregoing general heads the appropriate subordinate subjects will be considered in such detail as the period allotted to the course and the progress of the class will permit. Principal text-books: Robinson's *Elementary Law*; Cooley's *Constitutional Law*; Woolsey's *International Law*. In the select readings, the works of Sir Henry Maine receive special attention.

III. HISTORY

Professor WHEELER :—

17 *History of Europe since 1789*. [Seniors.] 2 hrs. both terms.

Mainly political; introductory to European politics of our day.

18 *English History*, general course. [Sen.] 3 hrs. both terms.

Political and constitutional. Particular attention is given to the origin and development of the system of self-government. The course is of special value to those who intend to study law.

19 *English History*, special course. [Sen.] 2 hrs. both terms.

Attention is confined chiefly to the Tudor and Stuart periods. Constitutional liberty vs. arbitrary power.

NOTE.—The loan library of History, founded by the liberality of about twenty graduates of the University, is for the use of students in the historical courses. It contains at present nearly 500 volumes, relating chiefly to the subjects of courses 17, 18, and 19. Other works which may be needed, will be added to the collection from time to time.

Professor DEXTER :—

20 *American History*. 2 hrs. 1st term.

Colonial history to 1765. Lodge's *Short History of the English Colonies in America* is used as a basis of instruction.

21 *American History*. 2 hrs. 2d term.

History of the United States from 1765 to 1865. A printed outline of topics to be taken up, with lists of authorities, is furnished to the students before each exercise, and they are required to prepare themselves on the topics indicated, by means of books reserved for their use in the Library or otherwise accessible to them.

Mr. BOURNE :—

- 23 *Medieval History.* 2 hrs. both terms.
This course is designed to give a general view of European history between the fourth and sixteenth centuries, tracing the development of the modern nations.
- 24 *History of the Reformation.* 1 hr. 2d term.
The political and religious changes of the period.
Courses 23 and 24 are conducted partly by recitations, partly by lectures.

IV. MODERN LANGUAGES

Assistant Professor RIPLEY :—

- 25 *Goethe.* 3 hrs. both terms.
During the first term selections from Goethe's shorter poems (lyrics, ballads, etc.) will be read. The poet's life down to the death of Schiller in 1805, will be studied, with the aid of selected readings, papers, and lectures. During the second term Faust, Part I entire, and selections from Part II.
- 26 *German Prose.* [Seniors.] 2 hrs. both terms.
For rapid reading. Selections will be made from more difficult narrative prose, works of travel, historical and critical essays.
- 27 *German Composition.* 2 hrs. both terms.
A course devoted to written and oral work in German composition. Themes in German written and criticized; practice in reading German without translation.

Mr. GOODRICH :—

- 28 *German Novels, Stories, and Plays.* [Juniors.] 3 hrs. both terms.
A course in rapid reading.
- 29 *German Drama.* 3 hrs. both terms.
Reading of selected plays from Lessing, Goethe, Schiller.
- 29a *Elementary (Freshman) German.* 3 hrs. both terms.

Professor KNAPP :—

- 30 *Spanish.* 3 hrs. both terms.
Essentials of Grammar. Rapid reading of modern authors (novels, drama), to lay basis for advanced practical course.
- 31 *Advanced Spanish.* 2 hrs. both terms.
Dramatists and Novelists of the seventeenth century. Advanced composition.

- 32 *Old French.* 2 hrs. both terms.
Earliest Monuments. Roman de Rou, part 1st. Choix de Fabliaux. Villon (les deux Testaments). Farce Pathelin.
- 33 *Modern French.* 3 hrs. both terms.
Composition and conversation.
- 34 [Sophomore French.] 2 hrs. both terms.
Figaro (newspaper) and Revue des Deux Mondes (first term); History of France and De Tocqueville's Ancien Régime et la Révolution (the two latter to be recited in substance, at 20 pages a lesson, with questions on French text).

Assistant Professor BENDELARI :—

- 35 *Classical French Authors.* 3 hrs. both terms.
Authors of the XVIIth century (Corneille, Racine, Molière, La Fontaine, Mme. de Sévigné, etc.); History of French Literature.
- 36 [Freshman French.] 3 hrs. both terms.
Easier authors of the XIXth century (G. Sand, Mérimée, About, etc.); Grammar and Composition.
- 37 *Elementary Italian.* 3 hrs. both terms.
Toscani's Grammar; Composition; De Amicis, Manzoni, Goldoni.

Mr. BRIDGMAN :—

- 38 *Modern Greek.* 2 hrs. 2d term.
Geldart's Guide to Modern Greek; reading of the current Greek literature; as much conversation as possible.

Professor BEERS :—

- 39 *Anglo-Saxon and English.* 2 hrs. both terms.
A two-years' course, Anglo-Saxon and Early English; Sweet's Anglo-Saxon Reader; Mätzner's *Altenglische Sprachproben*; Beowulf; Earle's History of Anglo-Saxon Literature; tenBrink's Early English Literature.
- 40 *English Literature.* [Seniors.] 3 hrs. both terms.
First term: Literature of the Elizabethan and Commonwealth periods. Readings in Spenser, Shakspeare, Bacon, Milton, and other authors. Lectures. Text-book; Morley's First Sketch of English Writers. Second term: Literature of the 19th century. Lectures and reading course. Text-book; Mrs. Oliphant's English Literature in the 19th century.

Mr. J. E. WHITNEY :—

41 *English Literature.* [Juniors.] 3 hrs. both terms.

Spenser's *Faerie Queene*, Books I and II. Dowden's *Shakspere Primer*. Shakspere's *Plays*. Milton's *Minor Poems* and *Paradise Lost*. The History of the Literature will be followed in a text-book and in Lectures. A course of outside reading will include extracts from Child's *English Ballads*, Spenser's *Minor Poems*, Marlowe, plays of Shakspere not taken up in class room, Jonson, Donne, Herbert, Herrick, Cowley, Marvell, and others. Opportunities will be given for extra optional work.

41a *Chaucer.* 1 hr. both terms.
Canterbury Tales.

42 *English Language.* 1 hr. both terms.
Lounsbury's *History of the English Language*. Lectures. Studies of the language with Skeat's *Etymological Dictionary*. Opportunities will be given for extra optional work.

Mr. McLAUGHLIN :—

43 *English Literature.* 2 hrs. both terms.
Representative plays of the leading dramatists before 1640, including several plays of Shakspere. Lectures on the rise and development of the English drama. Discussion of papers prepared by the class.

The portions of authors selected for reading in the various English courses are in no cases the same.

V. ANCIENT LANGUAGES AND LINGUISTICS

Professor HARPER :—

44 *Hebrew (first course).* 2 hrs. both terms.
Genesis i-viii, and with these chapters the principles of the Hebrew language; critical reading of selected chapters in the Pentateuch; rapid reading in Exodus and Deuteronomy; lectures on Hebrew poetry and Pentateuch-criticism.

45 *Hebrew (second course).* 2 hrs. both terms.
Selections from Isaiah, minor Prophets, Job, and Proverbs; advanced Hebrew grammar; Hebrew syntax; principles of Textual criticism.

46 *Hebrew and other Semitic Literature.* 2 hrs. both terms.
The books of the Old Testament, their literary character and historical contents; Assyrian, Arabic, Aramaic, and other Semitic literature, especially in relation to Hebrew literature.

47 *Arabic.* 2 hrs. both terms.

Arabic version of Genesis, chapters i-iv, and with these chapters the principles of the language (Lansing's *Arabic Manual*); selected portions of the Kuran; lectures on contents and arrangement of the Kuran.

48 *Assyrian.* 2 hrs. both terms.

Principles of the language; practice in reading the cuneiform text of Lyon's *Assyrian Manual* and Delitzsch's *Lesestücke*; lectures on Assyrian History and Literature.

Professor W. D. WHITNEY :—

49 *Sanskrit.* 4 hrs. both terms.

A first year's instruction in Sanskrit, beginning with the instructor's *Sanskrit Grammar*, and passing on to Lanman's *Reader*. A sketch of Sanskrit literature is given in connection with the exercises during the latter part of the year.

50 *Linguistics.* 1 hr. 2d term.

A series of exercises—mingled lecture, recitation, and discussion—on the leading topics of the general study of language, following and using as text-book the instructor's *Life and Growth of Language*, is given if a class of six or more is formed.

Professor PECK :—

51 *Pliny, Suetonius, and Tacitus.* 3 hrs. both terms.

Pliny's familiar letters; private antiquities and literary features of the age. Tacitus' *Dialogue on the decline of Oratory*; Latinity of the Silver age. Selections from Tacitus (*Annals*, i-vi) and Suetonius, illustrative of the character and reign of Tiberius.

52 *Latin Composition.* 2 hrs. both terms.

Written and oral translations from English into Latin; Latin themes and conversation.

53 *Horace and Persius.* 3 hrs. 1st term.

Interpretation of the *Epistles* (including the *Ars poetica*) of Horace; comparative studies in the *Satires* of Horace and Persius.

54 *Cicero.* 2 hrs. 2d term.

The *De Oratore* and the speech for Murena; Cicero's position in Roman literature and oratory.

55 *Latin Literature.* 1 hr. 2d term.

Lectures; studies in representative authors from Livius Andronicus to Aulus Gellius.

[This course is open only to those who shall have taken with credit at least one Latin elective in the first term.]

Professor H. P. WRIGHT :—

- 56 *Juvenal.* 2 hrs. 1st term.
Satires i, iii, iv, v, vii, viii, with study of the private life of the Romans.

Mr. ABBOTT :—

- 57 *Cicero's Letters.* 1 hr. 1st term.
Sketches of Roman politics and politicians during the two years after Caesar's assassination, gathered from the letters of Cicero for that period.
- 58 *Plautus and Terence.* 2 hrs. 2d term.
The Aulularia and Pseudolus of Plautus and the Andria of Terence.

Professor SEYMOUR :—

- 59 *Greek Tragedy.* 2 hrs. 1st term.
The Medea and Hippolytus of Euripides, with special reference to Greek metres and scenic antiquities.
- 62 *Demosthenes.* 2 hrs. 1st term.
The Oration on the Crown.
- 63 *Pindar.* 2 hrs. 2d term.
Selected odes, with a sketch of lyric poetry.
- 64 *Greek Tragedy.* 2 hrs. 2d term.
The Agamemnon, Eumenides, and Persians of Aeschylus.
- 65 *Thucydides.* 2 hrs. 2d term.
History of the Sicilian Expedition.
- 66 *Plato.* 3 hrs. 2d term.
The Republic.
- 67 *Greek Testament.* 1 hr. 2d term.
A philological, not theological, interpretation of St. Paul's Epistles to the Corinthians.

Mr. REYNOLDS :—

- 68 *Xenophon's Minor Writings.* 2 hrs. 1st term.
The Oeconomicus, Symposium, On the Athenian State—with discussion of private and public antiquities.
- 69 *Greek Composition.* 1 hr. 2d term.
A course designed especially for those who propose to teach.

Mr. BRIDGMAN :—

- 70 *Lucian.* 1 hr. 1st term.
The True History and one or two of the shorter Dialogues.

- 71 *Greek Comedy.* 1 hr. 2d term.
The Plutus of Aristophanes and the Cyclops of Euripides.

VI. NATURAL AND PHYSICAL SCIENCE

Professor LOOMIS :—

- 72 *Practical Astronomy.* [Seniors.] 4 hrs. 1st term.
Loomis's Practical Astronomy. Students have the free use of a portable transit instrument for observations.
- 73 *Meteorology.* [Seniors.] 2 hrs. 2d term.
Loomis's Meteorology. Daily study of the current weather maps of the signal service.

Professor J. D. DANA :—

- 74 *Geology.* [Seniors.] 2 hrs. 1st term.
Geology—physiographic, lithological, and historical.
- 75 *Geology.* [Seniors.] 2 hrs. 2d term.
Remainder of the historical Geology and dynamical Geology.
- 76 *Advanced Geology.* [Seniors.] 1 hr. both terms.
In connection with the study of the Manual, the reading and discussion of original memoirs and other publications treating of the topics in the course, together with work in the field. Excursions.

Professor EATON :—

- 77 *Botany.* [Juniors.] 2 hrs. 2d term.
The course is limited to twenty who pass the best examination in Gray's Lessons in Botany.
- 78 *Pteridology and Bryology.* [Seniors.] 2 hrs. 1st term.
The course is limited to six who do best in the botany of Junior year. The two hours constitute a single exercise weekly.

Professor A. W. WRIGHT :—

- 79 *Physics.* [Seniors.] 2 hrs. both terms.
Two exercises each week, chiefly practical work in the Sloane Physical Laboratory, with measurements, especially in heat, light, and electricity, each exercise occupying two hours. As introductory to the laboratory practice, the exercises, during a portion of the first term, consist of recitations or discussions upon the theory and methods of physical measurements, the use of instruments, and other special topics. Laboratory facilities are also accorded to students of the course at other times than those of the stated exercises. Kohlrausch's Physical Measurements; Glazebrook

and Shaw's Practical Physics; Kempe's Handbook of Electrical Testing; Everett's Units and Physical Constants, etc.

In case the number of applicants is greater than can be accommodated, preference will be given to those having a higher standing in Physics and Mathematics.

Professor THACHER :—

80 *Zoology*. [Juniors.] 4 hrs. 1st term.

Dissection of a small number of typical animals. Lectures on classification of animals. Lectures and recitations on Physiology. Huxley and Martin's Elementary Biology; Huxley's Elementary Physiology.

Professor E. S. DANA :—

81 *Mineralogy and Crystallography*. 2 hrs. both terms.

Practical study of mineral species by means of blowpipe analysis and other methods; mathematical study of crystals by the methods of analytical and spherical trigonometry, as also of their optical properties. The time will be divided about equally between the two parts of the subject; the practical exercises may be prolonged to cover two hours when but little outside preparation is called for.

82 *Determinative Mineralogy*. 1 hr. 2d term.

Practical exercises in the determination of minerals. Supplementary to course 81 and limited to those taking that course, and to those who have some previous knowledge of Mineralogy.

83 *Crystallography*. 1 hr. 1st term.

Study of crystals, theoretical and practical; more advanced and somewhat more difficult than that involved in course 81 and for which it may be substituted. This may be taken as a mathematical course by those not studying Mineralogy.

84 *Petrography*. [Seniors.] 1 hr. 2d term.

The study of rocks, chiefly by the microscope, involving also a preliminary study of the form and optical characters of the minerals common in crystallized rocks. The exercise may be extended over two hours. Limited to those taking course 81.

Professor GOOCH :—

85 *Chemistry*. [Seniors.] 3 hrs. both terms.

A special laboratory fee is charged in this course.

VII. MATHEMATICS

It is strongly recommended by all the instructors in the mathematical department that those who intend to study advanced mathematics or

the natural and physical sciences, or who expect to become engineers, should take course 86 in the Calculus in Junior year.

Professor NEWTON :—

86 *Calculus*. 3 hrs. both terms.

87 *Integral Calculus and Mechanics*. [Sen.] 3 hrs. both terms.
Mean values and probability; differential equations; analytical statics and dynamics.

88 *Shooting Stars and Meteors*. [Sen.] 1 hr. both terms.
The mathematical theories of these bodies and the treatment of the observations of them.

Professor GIBBS :—

89 *Vector Analysis*. [Seniors.] 2 hrs. 1st term.

Elementary course, in which the simpler problems of geometry, kinematics, and mechanics are treated by vector methods.

90 *Vector Analysis*. [Seniors.] 2 hrs. 2d term.

Advanced course, open only to those who have taken the preceding. The same methods are applied to electricity.

91 *Computation of Orbits*. [Seniors.] 1 hr. both terms.

Vector methods will be used, and the course is open only to those who take course 89.

Professor E. L. RICHARDS :—

92 *Higher Trigonometry*. 1 hr. both terms.

Exponential and logarithmic series; DeMoivre's theorem; theory of proportional parts; applications.

Professor PHILLIPS :—

93 *Analytical Geometry*. 2 hrs. both terms.

Casey's Treatise on Conic Sections is made the basis of instruction. The methods are extended to Geometry of three dimensions. Open only to those who take the Calculus.

Assistant Professor BEEBE :—

94 *Geodesy*. 2 hrs. 1st term.

Trigonometrical surveying; figure of the earth; problems in practical Astronomy; methods of the United States Coast Survey.

Some time will be given to the use of the theodolite. Students who desire to do so can take in addition one or two hours per week in practice in the use of instruments.

95 *Descriptive Astronomy*. 2 hrs. 2d term.

Continuation of the required work of 1st term Junior year. Newcomb's Popular Astronomy; Clerke's History of Astronomy.

The following statements are added, to explain the general aim and scope of the instruction in various leading subjects of study.

GREEK—During the first two years, the student reads five or six books of Homer, dramas of Aeschylus, Sophocles, and Euripides, one or two comedies of Aristophanes, selections from the history of Herodotus, one or more orations of Demosthenes, Isocrates, or Lysias, the Apology or some dialogue of Plato; occasionally, the Symposium of Xenophon or selected dialogues of Lucian. These works are selected with a view to making the student familiar with the leading branches of Greek literature, and the most interesting phases of Greek life and thought. The most important grammatical principles are reviewed in Freshman year; in Sophomore year, grammatical questions are discussed rarely, except as they are necessary for the interpretation and illustration of the author's meaning. In reading the works of the poets, less attention is paid to linguistic and grammatical points than to their literary quality, to the structure of the poems, to poetic words, forms, arrangement of words, rhythm, and constructions; but the growth and development of the language are discussed as well as the development of the literature. In reading the orators and historians, the connection of thought and of events is made prominent. Greek prose composition is practised only so far as to aid the student in reading Greek authors, and to quicken his perception of nice distinctions in the order and choice of words and constructions.

In the optional courses of the Junior and Senior years, the student has the opportunity of reading the works of the lyric poets, other Greek dramas and other dialogues of Plato, parts of Aristotle (his Politics and Ethics), and the idyls of Theocritus; as well as of studying Greek inscriptions, and of doing more critical work on the Homeric poems than is suited to the first College year; and of learning the Modern Greek language. The history of Greek philosophy is studied. Students may also attend Professor Hoppin's fully illustrated lectures on Greek art, in the Art School.

LATIN is continued as a required study till the close of the Sophomore year, when it is intended that the student shall have gained clear conceptions of the genius of the language and its relations to other ancient and to modern tongues, a good knowledge of the characteristics of Latin literature and the essential facts of Roman history, and some appreciation of the position of Rome in the history of civilization. That subsequent reading of the language may be more easy and more exact, due attention is given in the early part of the course to forms, constructions, and idioms. From term to term the study of the literature is made more prominent, and the particular texts are treated as means for the study of the public and private life of the Romans. Instruction

is given mainly by recitations, but such work is supplemented by occasional lectures by the instructors and by conferences on papers presented by the pupils. In connection with the minute study of the authors, considerable time is given to oral and written reading at sight, and to composition in Latin.

For Juniors and Seniors who desire to continue their Latin studies parallel courses are offered by different instructors, with different ends in view and by different methods. The characteristic of a course may be, *e.g.*, literature, or history, or philology, or antiquities, or the speaking and writing of Latin, and the methods of preparation and the class-room treatment vary accordingly. Topics suggested by the nature of the courses, or by individual tastes and intentions, are assigned to students, and papers thus prepared are discussed before the class. Lectures and the rapid reading of large amounts of text are more frequent than in the prescribed courses. The connection of Latin with English is emphasized, and written translations are from time to time required and criticised with reference both to their faithful reproduction of the Latin thought and their idiomatic English. German annotated editions are often used, not only for their intrinsic helpfulness, but also to encourage the practical use of that language. Students who give evidence of unusual capacity and attainments may be admitted to membership of graduate classes.

MATHEMATICS—In Geometry the exercises consist in recitations from the text-book, the original demonstration of theorems, and applications of the principles to the solution of numerical problems.

After the student has gained facility in the use of trigonometrical tables, the principles of Plane Trigonometry are applied to the problems of Mensuration, Surveying, and Navigation, and those of Spherical Trigonometry to the elementary problems relating to the celestial sphere.

In Algebra the elementary principles of the theory of equations are illustrated graphically, and the student is exercised in the numerical solution of equations of the higher degrees and the graphical representation of the relations of quantities.

In Analytical Geometry the student is carried through the elementary properties of the lines and surfaces of the second degree, and is introduced to the theory of map projection.

These are studies of the Freshman and Sophomore years, and together with the elements of Astronomy which are pursued in Junior year, are regarded as essential parts of a liberal education.

In the Junior and Senior years opportunity is given in the elective courses to obtain a wider knowledge of Analytical Geometry and Trigonometry with their applications to Geodesy and Astronomy. A longer and shorter course are provided in Junior year in Differential and Integral Calculus. The shorter course is designed for students who desire to become acquainted with the methods of the Calculus but

whose principal studies are not of a mathematical character. The longer course is designed for such as expect to make a serious study of any department of pure or applied mathematics.

In Senior year advanced subjects in the Calculus and the elements of Analytical Mechanics form one line of study.

An elementary and an advanced course are provided in what is called Vector Analysis. The object of these courses is to introduce the student to the methods of multiple algebra in geometry, mechanics, and physics. The matter taught is not entirely unlike that usually given in courses in Quaternions, but the method followed is in some respects nearer to Grassmann's than to Hamilton's. The elementary course is confined to the simplest algebraic relations of vectors. The advanced course includes differentiation with respect to position in space, and the theory of linear vector functions.

Students who show special aptitudes are exercised in the working up of subjects which require the use of the library and more prolonged investigation than the daily exercises of the class-room. Such work begins in Freshman year. There is a considerable collection of models, which are used to assist the imagination in the various branches of study.

ENGLISH—Two terms of English are prescribed in Sophomore year. The first deals with prose style as illustrated by selected essays of Addison, Steele, Burke, Lamb, DeQuincey, Macaulay, Carlyle and Ruskin; this work is associated with rhetorical praxis. The second term is devoted to five plays of Shakspeare: the study is literary, rather than philological or antiquarian. Lectures are given in dramatic criticism, a paper on some subject connected with the plays is prepared and read by each member of the class, and informal discussion of these papers is encouraged.

A course in Elizabethan literature with three exercises a week is given through Junior year. The central line of work to which chief attention is paid includes the lives of Spenser, Shakspeare, and Milton, the first two books of the Faery Queene, six or eight of the most important of Shakspeare's plays, Milton's minor poems, selections from his prose, and the whole of Paradise Lost. Church's Life of Spenser, Kitchin's edition of the Faery Queene, Books I and II, Dowden's Shakspeare Primer, editions of separate plays of Shakspeare by Rolfe and in the Clarendon Press series, and Masson's edition of Milton's Poems, will be used as a basis for the work this year. Lectures are given on the literary history and various subjects connected with the course. Supplementary readings are required in Child's English Ballads, Skelton, Spenser, Marlowe, Shakspeare, Jonson, Donne, Cowley, Herrick, Herbert, Milton, Marvell, and others.

A course in Chaucer with one exercise per week is open to Juniors and Seniors. Morris's edition of The Prologue, etc., Skeat's edition of the Prioresses Tale, etc., in the Clarendon Press Series, and Lounsbury's edition of the Parliament of Fowles, and an edition of the Canterbury Tales, will probably be used this year. Lectures are given on the literary history of the period, the manners and customs of the times, and other subjects illustrative of the work. Supplementary readings are required in Child's English Ballads, Mandeville, and others.

A two-hours' elective is also offered to the Junior and Senior classes in the leading dramatists from 1587 to 1640. Lectures are given on the origin and earlier development of English dramatic literature, on the actors, theatres and various stage-details of the Shaksperian period, and on the literary characteristics of the authors read. In the recitation work special attention is directed to dramatic analysis.

In the first term of Senior year the critical reading of Shakspeare in the class-room is continued. The plays selected for 1887-88 are *Twelfth Night*, *The Winter's Tale*, *Measure for Measure*, and *King John*. The literature of the period from 1780 to 1830 is studied in Oliphant's *Literary History of England*. A course of weekly lectures is given embracing the following authors: Cowper, Burns, Wordsworth, Coleridge, Landor, DeQuincey, Scott, Byron, Shelley, and Keats. Outside reading in the writings of all of these is assigned and an examination in this reading is held at the close of the term.

In the second term of Senior year lectures are given on Tennyson, Browning, Carlyle, Thackeray, George Eliot, Ruskin, the Oxford Movement, the Broad Church, the Rugby Group, the Pre-Raphaelites, etc., and outside reading is assigned in the writings of Tennyson, Browning, Carlyle, Thackeray, George Eliot, Ruskin, Matthew Arnold, Clough, Rossetti, and Swinburne. The literature of the 18th Century is studied in Perry's *History of English Literature in the Eighteenth Century*: in Saintsbury's *History of Elizabethan Literature*: in lectures on the periods covered by those text books: in the critical reading in the class-room of selected portions of the writings of Shakspeare, Bacon, Milton, Browne, and Dryden; and in outside supplementary reading, for examination, in the works of Donne, Herbert, Marvell, Herrick, and Pope.

A special library of from twenty to thirty duplicate copies of the most useful editions of many writers has been established for supplementary readings. This library will be enlarged from time to time. A course of one hour a week through the Junior year is offered to those who wish an acquaintance with the history of the English language. After finishing a text-book, the English vocabulary is studied in specimens of the speech of different periods and in groups of words introduced from various languages, showing thus the condition and changes of the vocabulary at different times, its composite nature, and the relative value of the contributions from other languages. Lounsbury's *History of the English Language* and Skeat's *Etymological Dictionary* are used in the course the present year.

English composition is prescribed through the whole of the Sophomore and Junior years. In the former, during the first term compositions are written as weekly class-room exercises; sketches, descriptions, brief narratives and the lighter forms of the essay are preferred to pieces on more difficult or bookish themes. During the rest of the year five essays of a more elaborate character are written; and in the Junior year two essays in each term. Each student's work is criticised at least once during every term; in cases where special instruction is needed, as well as in all cases where it is desired by the writer, each composition is discussed in private interviews. Literary practice is also encouraged by three public exhibitions during the course; two at the end of the Senior year, the third about the middle of the Junior year. Those competing for the last receive special instruction whenever they desire it.

GERMAN—The student may pursue the study of German during each of the four years of his College course, if he so elect. While the study may be begun at the opening of any of the four years, it is strongly urged that the elementary work be done as early in the College course as possible, in case the student proposes to take up the language at all.

The courses of work for the successive years may be outlined as follows. During the first year the work consists of German grammar, translation of easy English phrases, sentences, and stories into German, and of easy German prose into English. Constant sight-translation is used as a means for developing and strengthening the student's vocabulary and for freeing him from dependence upon the lexicon and from the word-by-word methods which its use encourages. Especial care also is devoted to pronunciation. The work of the second year continues and extends that of the first year, taking up the translation of German prose, narrative, critical, and historical, composition and sight-translation. Throughout the two years the aim in reading German is to cover as much ground as possible—from 500 pages upwards—in the belief that thereby the student will acquire more command of the language than when a smaller amount is read with rigid attention to grammatical details. It is expected that at the end of the second year the student will be able to use the language in his work in other branches of study. Those, therefore, who are studying German solely with this end in view may perhaps abandon the language at this point; but no student should begin the language unless he expects to devote at least two years to its study.

For the remaining years the elective courses vary from year to year; but opportunity is given for the critical study of some of the masterpieces of German literature and for the study of periods in its history. Those who so elect may also have opportunity to take up the earlier German literature and to study the historic development of the grammar of the language. In this latter course all work will be done in German.

German readings are given by the instructors outside the regular College work, and advanced classes in composition formed, where German alone is spoken. German is constantly read aloud in the class-room, and all efforts, both in the class-room and in private, are made to improve the student's pronunciation and to help him to acquire some facility in expressing his ideas in German. But it is not a leading aim in the instruction in German to enable the student to converse in that language. Training in the ordinary conversational idiom may be had more profitably elsewhere and cannot form any considerable part of the class-room work. The student may acquire the language as a tool for use in other departments of study and may come in contact with the best works of German literature, studying their form and contents, and the lives and environment of their authors; fluency in conversation must be acquired where the conditions are more fitted to the object which they are to effect.

FRENCH—This course may extend through the entire four years, involving the study of the leading epochs of the language and literature from their inception to the present; embracing especially, with reference to English origins, the *Norman* dialect of the Old French as exhibited in the *Chanson de Roland*, the *Roman de Rou*, and the *Fabliaux* of Marie de France; in the XV. and XVI. centuries the works of Villon, Marot, Rabelais, and Montaigne, as representatives; the drama from the earliest *Mystères*, *Farces*, *Soties*, to Garnier, Corneille, Molière, and Racine; in satire and criticism, Boileau; dwelling particularly on the foreign and national influences that moulded the language till it assumed its actual form. Attention throughout the earlier years is given to composition in French as the best method for training the attention, the memory and the judgment, and the oral use of the language is insisted on for the courses in the Classical and Old French periods. Instruction is given by recitation, and lectures in French will be read on the history of the language and literature, on which written French examinations will be required.

PHYSICS—The required course in Physics extends through the year with three exercises weekly. The general design of the course is to make the student acquainted with the fundamental principles of the science, to enable him to understand something of the methods of experiment and reasoning by which physical laws have been established, and to give him an insight into the degree of accuracy demanded in physical work. The subject of Electricity is treated at somewhat greater length than the other branches, and is fully illustrated by experimental lectures; in this direction the recent equipment of the Sloane Laboratory makes the department especially strong. During the Senior year there is an opportunity for those students desiring to avail themselves of it, to go forward with practical laboratory work, as is described in the list of elective courses (No. 79).

CHEMISTRY—Pending the completion of the new Kent Laboratory, an elective course of three exercises weekly represents the work done in Chemistry by undergraduates during the present year. The instruction of the first term is given in the class-room, but that of the second term will be largely practical, and in the laboratory.

It is probable that during the academic year 1888-89 a course of experimental lectures may be given to the Junior class, and an elective course of practical work in the laboratory, extending through both terms, will be offered to Seniors and Juniors.

POLITICAL SCIENCE AND LAW—The instruction in the elements of Political Economy is intended to give familiarity with the method and doctrines of the so-called "orthodox" economists, as the proper introduction which the student should have to the science, and as the basis for whatever may be offered later. Text-books are used with set lessons, constant examinations, both written and oral, discussions, and illustrations. The courses are arranged in the belief that the student will gain more under a classification which is adjusted to meet differences of interest and capacity. Those who take Political Economy in Junior year have an opportunity in Senior year to become acquainted with the history of the science and the controversies now going on in it, and to study more thoroughly special topics. In the course on Anthropology they are also offered an opportunity to become acquainted with the new sciences whose investigations are so important for the whole field of social science.

The course in law treats of municipal and international law as parts of a liberal education. The object is to study civil institutions, both in their theory and in their positive form. The instruction is elementary, dealing with the fundamental facts and principles which underlie the civil polity of the American State and is intended to give the student a correct knowledge of such essential facts about the life of the State and its accepted doctrines, as every educated man should possess, as well as to lead up to the professional study of law.

MENTAL AND MORAL SCIENCE, AND PHILOSOPHY—The courses in this branch of study begin in Junior year, and continue until graduation. During two-thirds of Junior year and the whole of Senior year, three hours per week of class-room work in Logic, Psychology, Ethics, and the Evidences of Religion, are required of every student; the remainder of the work in these and kindred subjects is elective.

LOGIC—In this subject there is an elementary required course, occupying three hours a week during the first term of Junior year. In this course attention is centered on the principles of correct definition and valid proof. A large part of the work of the students consists in the oral and written discussion of examples of definition and of deductive

and inductive argument, the examples being partly in the condensed form usual in text-books on Logic, partly in the form of somewhat extended quotations from various authors on subjects of general interest. At the same time, and although the minutiae of the traditional Logic are ignored, pains is taken to secure the disciplinary value of the study as a training in abstract thinking and abstract statement.

PSYCHOLOGY—Required work in this subject begins with the last half of the second term of Junior year and continues nearly through the first term of Senior year,—the course thus comprising about twenty weeks of instruction in all. Although the earlier part of the course is taught with constant use of a text-book, upon which daily recitations are exacted, considerable time from the first is taken by the teacher in oral instruction, critical or supplementary of the text. One or more formal lectures on selected topics in Psychology are given each week. During the later part of the course, after the pupils have acquired some facility in the general subject, the instruction is chiefly by lectures upon the basis of a text-book. The course is completed by lectures discussing the doctrine of the Mind's nature, and its relation to the body. The course in Physiological Psychology extends through the entire year and is taught by lectures and recitations; it is illustrated by constant use of models, charts, apparatus for mixing color-sensations, etc. It is designed to go briefly over the whole ground of the modern experimental and physiological study of mental phenomena; especially as regards the quality and quantity of sensation, psychometry, and the physical basis of the higher faculties. It may be elected either in Junior year as preparatory, or in Senior year as supplementary, to the required course in introspective Psychology.

HISTORY OF PHILOSOPHY—The study of this subject is elective and confined to Senior year. In the study of the History of Greek Philosophy the principal emphasis is laid upon Plato and Aristotle, and upon the post-Aristotelian Schools, as illustrating the permanent and most interesting problems of Philosophy.

The course in Modern Philosophy extends through the whole of the Senior year. It is taught both by recitations from the text-book, with accompanying remarks from the teacher, and by lectures. Effort is made to secure from each pupil the careful reading of at least one work of some prominent philosopher of the period considered in the class-room. Special emphasis is laid upon the philosophy of Kant; and a course of lectures, lasting several weeks, is delivered in exposition of selected extracts from his Critique of Pure Reason. Pains is taken to trace the development of modern speculative thought so as to throw light upon the principal questions in debate among present writers in philosophy.

PHILOSOPHY—In addition to the study of Philosophy as connected with the problems of rational Psychology, and as illustrated and enforced by the history of the development of Philosophy, the works of one or more of the leading authors are read and discussed, with such students as take the elective courses opened for this purpose. In this way the more general studies in Metaphysics and Ethics are supplemented by special information regarding selected subjects and writers.

MORAL SCIENCE, as a study, is intimately connected with the instruction in Psychology and Philosophy, as its foundations are discovered in the constitution of the human soul, and its method and fundamental relations are justified and enforced by those principles which are essential to all scientific thinking. In the department of Moral Science and of Practical Ethics, a somewhat thorough course is required of the entire Senior class, as an essential element of a thorough education and an important condition for practical usefulness. This general course is supplemented by special classes in scientific and practical Ethics, and particularly in the history and criticism of ethical theories, which are maintained through the year. In connection with these courses, a full course of lectures is delivered upon the nature, evidences and authority of Christian Theism and the Christian History, particularly as related to a sound ethical theory of man and his destiny. This course of lectures is attended by all the members of the Senior class, and a thorough examination enforced.

SPECIAL HONORS

Special Honors are conferred at the end of Senior year.

One-year honors may be taken in any one of the following groups of studies; two-year honors in any one of groups 2, 4-7 :

(1). Philosophy. (2). Political Science, History, and Law. (3). English. (4). Ancient Languages. (5). Modern Languages (exclusive of English). (6). Natural and Physical Science. (7). Mathematics.

A candidate for a one-year honor must announce his intention to the Dean on or before December 1 of Senior year; a candidate for a two-year honor to the same by the same date of Junior year.

A candidate for a one-year honor must pursue with distinction in his Senior* year, and a candidate for a two-

* But in group 3, work done in Junior year in English will be accepted in place of an equivalent amount of work done in Senior year.

year honor in his Junior and Senior years, courses (whether prescribed or elective) amounting to an average of at least six hours per week in one of the specified groups. For a two-year honor the work must be so distributed that an average of at least four hours per week shall be taken in Junior year.

A candidate for either honor must present a meritorious thesis before May 1, of his Senior year.

[In the department of Modern Languages, elementary German will not be reckoned for honors. In the department of Mathematics, no student will be considered a candidate for honors, unless he has taken the Calculus.]

TERMS AND VACATIONS

THE PUBLIC COMMENCEMENT is held on the last Wednesday in June. The first term begins twelve weeks from the day after Commencement-day and continues thirteen weeks; the second term begins on the first Thursday in January and continues until Commencement-day, with a Spring Recess—of eight days—including Easter. (See Calendar, p. 6.) There is also a recess at Thanksgiving, usually extending from Wednesday afternoon to Monday forenoon. The exercises of each term begin with prayers in the Chapel on Thursday morning.

PUBLIC WORSHIP

PRAYERS are attended in the Battell Chapel, with reading of the Scriptures and singing, every week-day morning, at 8.10 a. m., at which service the attendance of the students is required.

PUBLIC WORSHIP is held in the Chapel on Sundays, at which all the students are required to attend, except such as have special permission to attend the worship of other denominations, to which their parents belong. Such permission can be obtained only on presenting to the Dean a written request therefor from the parent or guardian.

DWIGHT HALL, a building erected on the College square, at the expense of Elbert B. Monroe, Esq., of Southport, Conn., and presented to the Corporation in 1886, is designed to furnish an attractive center for the religious life of the students of all the Departments, especially through the organized work of the Young Men's Christian Association of Yale University.

LIBRARIES AND READING ROOMS

The Library of the University, containing over 135,000 volumes, is open every week-day to all the students for consultation and for the drawing of books; in a separate part of the building is the Linonian and Brothers Library, a collection of nearly 30,000 volumes in general literature, specially selected for the use of the undergraduate students.

The College Reading Room, containing the principal newspapers and periodicals, American and foreign, is open to the students every day and evening without charge. There is also a reading room and a select library (partly for circulation and partly for reference) in Dwight Hall.

THE GYMNASIUM

THE GYMNASIUM is designed to provide all the students with opportunities for exercise, under the advice of a Medical Director, who is a regularly educated physician. Members of the Freshman Class are required, during a part of the year, to take exercise in light gymnastics under the instruction of the Medical Director; and any student may enter the class of general gymnastics, which is under the Medical Director's immediate care. A thorough physical examination and measurement of each student is made yearly by the Medical Director, and a record of these results is kept as a basis of advice as to exercise and regimen; an examination of this record shows that the standard of health of the average student improves during his College course. Members of the other Departments of the University

may avail themselves of the privileges of the Gymnasium (including the advice of the Medical Director, the use of the apparatus, bowling alleys, and shower-baths), on the payment to the janitor, in advance, of a small fee.

EXPENSES

THE TREASURER'S BILLS are made out and delivered to the students three times a year, viz: at the close of the first term, and at the middle and at the close of the second term, at which times they are payable. The bills must be paid within two weeks after the beginning of the succeeding term or half-term, or interest is charged from the date of the bills, and the student is liable to be prohibited from reciting. Drafts on Boston, New York, and Philadelphia will be received at par.

The annual charge for tuition is one hundred and fifty dollars, including incidentals. An additional charge of eighteen dollars is made to each student in the last bill of the Senior year, to cover the expenses of graduation.

ABSENCE ON LEAVE—A student who is absent from College on account of sickness, or for any other cause, and retains his place in his class, pays full tuition during such absence; such payment is required before the student can be admitted to examination.

BOARD is obtained at prices varying from three and a half to seven dollars a week. The average price is about five dollars.

ROOMS—There are in the College buildings nearly two hundred and fifty rooms occupied by students, at prices varying (according to location) from fifty cents to six dollars per week. These rooms are not furnished, and the rates charged do not include heat or light.

Farnam Hall (built in 1869-70) is named in commemoration of Henry Farnam, Esq., of New Haven, who bore the chief part of the expense of its erection; Durfee Hall (built in 1870-71) commemorates in like manner the generosity of Mr. Bradford M. C. Durfee, of Fall River,

Mass.; Lawrance Hall (built in 1885-86) owes its name to a gift for this purpose from Mrs. Francis C. Lawrance, of New York City, in memory of her son, Thomas Garner Lawrance, of the Class of 1884, who died during his Senior year in College.

Students living out of College are not allowed to room in any building in which a family does not reside, except by special permission of the Faculty.

The rooms on the fourth floors of North College and North Middle College (rented at prices ranging from \$1 to \$1.50 per week), and a few others in Durfee, Farnam, and Lawrance Halls (at higher prices), are reserved each year for members of the Freshman Class; these rooms are all heated by steam, for which an additional charge of from \$25 to \$30 per year is made.

Applications for rooms from those who expect to enter the Freshman Class in this College in September, 1888, should be sent to Professor Henry P. Wright (the locating officer), not later than June 1. As no single rooms are reserved, every application should be signed by two persons who wish to occupy a room together.

Members of the Junior, Sophomore, and Freshman Classes, occupying any of the College rooms (except those on the fourth floors of North College and North Middle College) may retain the same rooms for another academic year, by making application in writing to the locating officer, on or before Saturday, May 26, 1888. Rooms not reserved will then be offered to the three Classes in order: choices will be allotted to the Junior Class on Tuesday, May 29, to the Sophomore Class on Thursday, May 31, and to the Freshman Class on Tuesday, June 5.

PRICES PER WEEK OF ROOMS IN COLLEGE FOR 1888.

When a room is occupied by two persons, each occupant will be charged with one-half the price named in this schedule. *Where a single person occupies alone a room having two bedrooms, each of which is directly lighted by an outside window, he will be charged ten per cent. in addition to the price set upon the room.*

- \$0.50.—66, 67, 82 North Middle; 188, 189 Old Chapel.
 \$0.75.—2, 3, 18, South; 49 South Middle; 65, 68, 81, 84 North Middle; 98, 99, 114 North.
 \$1.00.—1, 4, 17, 20 South; 34, 47, 50, 63 South Middle; 79, 95, North Middle; 97, 100, 113, 116 North; 190, 191 Old Chapel.
 \$1.25.—15, 31 South; 39, 43, 46, 55, 59, 62 South Middle; 71, 75, 78, 87, 91, 94, North Middle.
 \$1.50.—7, 11, 14, 23, 27, 30 South; 38, 42, 48, 54, 64 South Middle; 74, 77, 80, 90, 93, 96 North Middle; 103, 106, 107, 110, 111, 119, 122, 123, 126, 127 North.
 \$1.75.—6, 10, 13, 16, 22, 26, 29, 32 South; 40, 44, 45, 56, 60, 61 South Middle; 72, 76, 88, 92 North Middle; 133, 137, 141, 160, 167, 175 Farnam.
 \$2.00.—8, 9, 12, 24, 25, 28 South; 37, 41, 53, 57 South Middle; 69, 73, 85 North Middle; 101, 104, 105, 108, 109, 112, 120, 124, 125, 128 North; 155 Farnam; 186, 187, 192, 193 Old Chapel.
 \$2.50.—182, 183 Lyceum; 243, 244 Lawrance.
 \$3.00.—180 Lyceum; 250, 251, 260, 261, 270, 271, 281 Lawrance.
 \$3.50.—142, 143, 158, 159, 161, 162, 176, 177 Farnam.
 \$4.00.—130, 131, 134, 135, 138, 139, 140, 144, 145, 146, 147, 148, 149, 151, 152, 154, 156, 157, 164, 165, 168, 169, 172, 173, 174 Farnam; 282 Lawrance.
 \$4.50.—129, 132, 163, 166, 170 Farnam; 208, 215, 216, 223, 224, 231, 232, 239 Durfee; 248, 249, 258, 259, 268, 269, 279 Lawrance.
 \$5.00.—178, 179 Lyceum; 202, 204, 206, 209, 210, 211, 212, 214, 217, 218, 219, 220, 221, 222, 225, 226, 227, 228, 229, 230, 233, 235, 237 Durfee; 241, 242, 245, 246, 247, 252, 253, 254, 255, 256, 257, 262, 263, 264, 265, 266, 272, 273, 274, 277 Lawrance.
 \$5.50.—280 Lawrance.
 \$6.00.—201, 203, 234, 238 Durfee; 278 Lawrance.

The subjoined table gives near estimates of the ordinary annual expenses in College, omitting clothing and vacation charges.

	Lowest.	General Average.	Very Liberal.
Treasurer's bill (tuition and incidentals),	\$150	\$150	\$150
Rent and care of half-room in College,	15	75	110
Board, 37 weeks,	130	200	270
Furniture, average of half-room for 4 years,	8	20	50
Fuel (steam-heat) and light, for half-room,	14	18	25
Washing,	15	27	45
Text-books and stationery,	10	30	50
Subscriptions (to Societies, Sports, Periodicals, etc.),		30	100
Private servant, for special care of room,			25
Sundries,	8	75	200
Total,	\$350	\$625	\$1025

BENEFICIARY AID

The sum of \$11,000 and upwards, derived partly from permanent charitable funds, is annually applied by the Corporation for the relief of students who need pecuniary aid, especially of those preparing for the Christian ministry. In this amount are included the income of the *LANGDON FUND*, of four thousand dollars, bequeathed in 1835 by Solomon Langdon, of Farmington, Conn., and a portion of the income of the *ELLSWORTH FUND*, now over fifty-six thousand dollars, received since 1858 from the estate of the Hon. Henry L. Ellsworth (Yale College 1810); both these funds are used for the support of students intending to enter the ministry.

There is also a *LOAN FUND*, for the benefit of needy students, which has been constituted from repayments made to the Treasury by former students who have received aid during the College course. No deserving student who will make good use of the opportunities of the College need be deterred from entering it by the cost of tuition. Those needing aid should apply to the President before November 1st in each College year. Assistance will be withdrawn from students who incur serious College censure, or who fail to maintain a reputable scholarship.

THE *MORGAN FUND*, bequeathed by the late Henry T. Morgan, of New York City, has been set apart by the Corporation, with the provision that the income shall be divided into scholarships (at present thirty-six in number, yielding \$125 each), to be assigned by the Faculty for the benefit of indigent and deserving students.

THE *HARMER FOUNDATION OF SCHOLARSHIPS*, the proceeds of a bequest in 1854 from Thomas Harmer Johns (Yale College 1818), of Canandaigua, N. Y., comprises six scholarships, each yielding one hundred dollars a year, to be given to deserving students of small means.

THE *LYON SCHOLARSHIP FUND*, of forty-four hundred dollars, given in 1869-72 by Mr. Morris W. Lyon (Yale College 1846), of New York City, benefits four scholars, selected for their worth and need by the founder or the Faculty.

THE *LUCIUS HOTCHKISS FUND*, of ten thousand dollars, the bequest of Lucius Hotchkiss, Esq., of New Haven, in 1881, comprises four scholarships, the income of which is given to indigent and deserving students.

THE *LEAVENWORTH SCHOLARSHIP FUND*, now amounting to over eight thousand dollars, was established in 1882 by the Hon. Elias W. Leavenworth (Yale College 1824), of Syracuse, N. Y., with the primary object of defraying in part the expenses of the education of students of good character and promise, bearing the surname of Leavenworth.

There are nineteen other Scholarship Funds, most of them of one thousand dollars, the income of which may be given to such students as shall be selected by the founders or the Faculty. In this number are included Scholarships named in commemoration of William Allen, Charles Atwater, William S. Charnley, William E. Dodge, Thomas H. and Luther Fuller, Sereno Gaylord, Samuel Holmes, Elisha C. Jones, William A. Macy, John S. Mitchell, Peter Parker, Messrs. Raymond and Bordwell, and John Spaulding.

There are also opportunities for students in need of aid to render service to the College as monitors, etc.; in this way about seven hundred dollars is disbursed annually. And in general it may be said that the other means of self-help at the command of students are sufficient to enable many of those who have spare time to provide for the larger part of their College expenses.

By the liberality of Mr. William L. Andrews, of New York City, and as a memorial of his son, Loring W. Andrews, a member of the class of 1883, a well furnished library has been established, containing text-books and works of reference, to be loaned gratuitously to those students who have need to avoid the expense of purchasing such books. Permission to use this library can be obtained from the President.

FELLOWSHIPS AND SCHOLARSHIPS

THE DOUGLAS FELLOWSHIP, with an income of six hundred dollars a year, was founded in 1873, by Mrs. Samuel Miller, of New Haven, and named in memory of her brothers, the Rev. Sutherland Douglas (Y. C. 1822) and George H. Douglas (Y. C. 1828). The incumbent, who must be a recent graduate of this Department, pursuing non-professional studies in New Haven, is elected annually, but no person shall hold the Fellowship for more than three years.

THE SOLDIERS' MEMORIAL FELLOWSHIP, with an annual income of six hundred dollars, was founded in 1875 by Mrs. Theodosia D. Wheeler, of New Haven, in honor of the alumni who fell in battle as Union soldiers, in the war of 1861-1865, and in special remembrance of William Wheeler, of the Class of 1855. The incumbent must be, at the time of his election, a graduate of this Department, of not more than three years' standing. He shall pursue non-professional studies, and may hold the Fellowship for a period not exceeding five years. In selecting the incumbent, the President and Professors are to give preference to one who has shown special proficiency in Greek; and for the further prosecution of Greek study, the Fellow may be allowed to spend a part or the whole of the time of his incumbency in Athens, in connection with the American School of Classical Studies, instead of in New Haven.

THE SILLIMAN FELLOWSHIP, founded in memory of Professor Benjamin Silliman, Professor of Chemistry, Mineralogy, and Geology in Yale College from 1802 until his death in 1864, has an annual income of six hundred dollars, and is awarded to a graduate of this Department who has given evidence of proficiency and promise in some branch of physical science. The incumbent is elected annually, but no person shall hold the Fellowship for more than three years.

THE BERKELEY SCHOLARSHIP, founded in 1733 by the Rev. George Berkeley, Dean of Derry, and afterwards Bishop

of Cloyne, and yielding about fifty-five dollars a year, is awarded to the student in each Senior Class who passes the best examination (which must be a creditable one) in the Greek Testament (Pauline Epistles), the first book of Thucydides, the first six books of Homer's Iliad, Cicero's Tusculan Questions, Tacitus (except the Annals), and Horace; provided he remain in New Haven as a graduate, one, two, or three years.

THE CLARK SCHOLARSHIP, being the income of a fund of two thousand dollars, given for this purpose by Mr. Sheldon Clark, of Oxford, Connecticut, is awarded in each Senior Class to the applicant who has attained the highest rank in the studies of the course; provided he remain in New Haven one year or two years immediately after graduation, pursuing a course of study (not professional) under the direction of the Faculty.

THE BRISTED SCHOLARSHIP, founded in 1848 by Mr. Charles Astor Bristed (Yale College 1839), of New York City, and yielding about one hundred and twenty-five dollars a year, is awarded, whenever there is a vacancy, to the student in the Sophomore or Junior Class who passes the best examination in the classics and mathematics. The successful candidate receives the annuity (forfeiting one-third in case of non-residence) until the end of the third year after graduation.

THE FOOTE SCHOLARSHIPS, founded in 1873 by a bequest of Harry W. Foote (Yale College 1866), of New Haven, and yielding five hundred dollars a year, are awarded to graduates of this Department, selected by the Corporation, who remain in New Haven for one or more years pursuing studies in the graduate courses of the Department of Philosophy and the Arts.

THE LARNED SCHOLARSHIP, founded in 1877 by the bequest of Mrs. Irene Larned, of New Haven, and yielding three hundred dollars a year, and tenable for three years, is awarded in each Senior Class. The incumbent must reside in New Haven, pursuing a course of advanced study under the direction of the Faculty.

THE MACY SCHOLARSHIP, being the income of a fund of ten thousand dollars, derived from a bequest of the Rev. William A. Macy (Yale College 1844), of Shanghai, China, who died in 1859, is awarded, whenever there may be a vacancy, to a recent graduate of distinguished scholarship, who may hold it for a term of three years. He shall reside in New Haven, pursuing a course of non-professional study, and shall at the close of each College year present a meritorious thesis in evidence of his work during the previous year.

THE WOOLSEY SCHOLARSHIPS, being the income of a fund of four thousand dollars, the gift of President Woolsey, in 1846-48, are awarded in successive years, one to the student in each Freshman Class, who passes the best examination in Latin Composition (excellence in which is essential to success), in the Greek of the year, and in the solution of algebraic problems. The successful candidate receives the annuity, under certain conditions, during the four years of his College course. The student who stands second at this examination receives for one year the income of the HURLBUT SCHOLARSHIP FUND, of one thousand dollars (established by Henry A. Hurlbut, Esq., of New York City, in 1859); and the student who stands third, the income for one year of the THIRD FRESHMAN SCHOLARSHIP FUND, of the same amount, given by Charles M. Runk, Esq., of Allentown, Pa., in 1865.

THE W. W. DEFOREST SCHOLARSHIP, being the income of a fund of two thousand dollars, bequeathed in 1867 by William Wheeler DeForest, of New York City, is awarded to a student in each Senior Class who has attained distinction in the study of French while in College, provided he pursue for the year after graduation a further course of study in the modern languages, especially French, Spanish, Portuguese, or Italian, under the direction of the Faculty.

PREMIUMS

THE DEFOREST PRIZE, founded by David C. DeForest, of New Haven, and consisting of a gold medal, of the value of \$100, is awarded "to that scholar of the Senior Class

who shall write and pronounce an English Oration in the best manner," the President and Professors being judges.

TOWNSEND PREMIUMS, five in number, of twelve dollars each, founded in 1843 by the gift of Isaac H. Townsend (Yale College 1822), of New Haven, are awarded in each Senior Class for the best specimens of English Composition; all compositions receiving Premiums must be read in public.

DEFOREST MATHEMATICAL PRIZES, founded by the late Dr. John DeForest (Yale College 1826) and his son, E. L. DeForest (Yale College 1854).—A first prize of one hundred dollars and three second prizes of fifty dollars each, are offered to the Senior Class for worthy solutions of problems in pure and applied Mathematics. This year about sixty dollars from the same source will be offered in prizes to the Junior, Sophomore, and Freshman Classes for the solution of mathematical problems.

WINTHROP PRIZES, the income of a fund of \$5000 given in 1871 by Buchanan Winthrop, Esq. (Yale College 1862), of New York City, are annually offered to the Junior Class "for the most thorough acquaintance with the Greek and Latin poets," particular attention being paid to elegance of scholarship and appreciation of the spirit of the poetry, as shown at an examination during the latter half of the second term. The first prize is two hundred dollars, and the second prize is the balance of the income for the year.

The subjects for the examination in the Class of 1889, are as follows: The Olympian Odes of Pindar; the Agamemnon of Aeschylus; the Medea, Hippolytus, and Bacchantes of Euripides; Lucretius, Book V; the Epistles of Horace; Tibullus (Ramsay's Selections).

A COLLEGE PRIZE of thirty dollars is awarded to the successful competitor at the Junior Exhibition, in the second term of each year. The competition is limited to eight speakers chosen from the higher grades of the Junior appointment list.

COLLEGE PREMIUMS are given each year in the Sophomore Class for English Composition, and for Declamation.

THE SCOTT PRIZE for excellence in German is offered to the Senior Class, and the SCOTT PRIZE for excellence in French to the Junior Class; these are of the value of thirty dollars each, and are given in books, appropriately inscribed. The prizes were founded by the bequest of Henry W. Scott (Yale College 1863), who died in 1871.

BERKELEY PREMIUMS for excellence in Latin Composition are offered to the Freshman Class near the end of the year, from the surplus income of the Berkeley Scholarship Fund.

THE HUGH CHAMBERLAIN GREEK PRIZE, being the income of one thousand dollars given for this purpose in 1886, by the Hon. Daniel H. Chamberlain (Yale College 1862), of New York City, is awarded annually to that member of the Freshman Class who has passed the best examination in the Greek required for admission to College.

Candidates for this Prize will be required to pass the whole examination in Greek, the year of their admission to College, even though they may have been accepted already in some of the Greek subjects at a preliminary examination.

DEGREES

The degree of BACHELOR OF ARTS is conferred by the Corporation on those persons who have completed the course of academical exercises, as appointed by law, and have been approved on examination at the end of the course as candidates for the same. Candidates are required to pay their dues to the Treasurer as early as the Saturday before Commencement.

For the degrees of Master of Arts and Doctor of Philosophy, see pages 95 and 96.

SHEFFIELD SCIENTIFIC SCHOOL

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 ERWIN S. SPERRY, PH.B., *Assistant in Analytical Chemistry*

THE SHEFFIELD SCIENTIFIC SCHOOL is devoted to instruction and researches in the mathematical, physical, and natural sciences, with reference to the promotion and diffusion of science, and also to the preparation of young men for such pursuits as require special proficiency in these departments of learning. Instruction is also given in French, German, English, History, Political Economy, and Constitutional Law.

The school, begun in 1847, and reorganized upon a more extensive scale in 1860, received in 1863, by the act of the Connecticut Legislature, the national grant for the promotion of scientific education under the Congressional enactment of July, 1862.

The name was conferred upon it by the Corporation of the University as a recognition of the late Joseph E. Sheffield, Esq., whose gifts to it at various times constitute its chief property and endowment.

OFFICERS AND INSTRUCTORS—Upon the Governing Board, consisting of the professors permanently attached to the School, devolve its internal management and the greater part of the instruction. In addition to these and the instructors employed during the current year, Professor Niemeyer, of the Yale School of the Fine Arts, gives instruction in Elementary and Free-hand Drawing.

THE BOARD OF STATE VISITORS consists of the Governor, the Lieutenant Governor, three Senior Senators, and the Secretary of the Board of Education.

The instruction is intended for two classes of students:—

I.—Graduates of this and other Colleges or Universities, and other persons qualified for advanced or special study.

II.—Undergraduates who desire a training, chiefly mathematical and scientific, in part linguistic and literary, for higher scientific studies, or for other occupations to which such training is suited.

INSTRUCTION FOR GRADUATE AND SPECIAL STUDENTS

Persons who have gone through undergraduate courses of study, here or elsewhere, may avail themselves of the

facilities of the School for more special professional training in the physical sciences and their applications, gaining in one, two, or three years the degree of BACHELOR OF PHILOSOPHY, or in two additional years of Engineering study, that of CIVIL ENGINEER or that of DYNAMIC or MECHANICAL ENGINEER.

Or, engaging in studies of a less exclusively technical character, they may become candidates for the degree of DOCTOR OF PHILOSOPHY, under the conditions stated on page 96. The instruction in such cases will be adapted to the particular needs and capacities of each student, and may be combined with that given by instructors in other departments.

SPECIAL STUDENTS—For the benefit of those who, being fully qualified, desire to pursue particular studies without reference to obtaining a degree, special or irregular students are received in most of the departments of the School; not, however, in the Select Course, nor in the Freshman Class. It should be distinctly understood that these opportunities are not offered to persons who are incompetent to go on with regular courses, but are designed to aid those who have received a sufficient preliminary education elsewhere to increase their proficiency in special branches.

INSTRUCTION FOR UNDERGRADUATE STUDENTS

TERMS OF ADMISSION—Candidates must be not less than fifteen years of age, and must bring satisfactory testimonials of moral character from their former instructors or other responsible persons.

For admission to the Freshman Class the student must pass a thorough examination in the following subjects:

English—including grammar, spelling, and composition. In grammar, Whitney's Essentials of English Grammar, or an equivalent.

History of the United States.

Geography.

Latin—(1) Simple exercises in translating English into Latin. (Smith's "Principia Latina," Part i, is named as indicating the nature and extent of this requirement, and an acquaintance with it will be required

unless a satisfactory substitute is offered.) (2) Caesar—six books of the Gallic War, or their equivalent. (As advantageous substitutes for the last three books of Caesar may be suggested three books of Vergil's Aeneid, or a similar amount of Ovid.)

Arithmetic—Fundamental Operations, Least Common Multiple, Greatest Common Divisor, Common and Decimal Fractions, Denominate Numbers, including the Metric System of Weights and Measures; Percentages, including Interest, Discount, and Commission; Proportion, Extraction of the Square and Cube Roots.

Algebra—Fundamental Operations, Fractions, Equations of the First Degree, with one or several unknown quantities; Inequalities, Ratio and Proportion, Powers and Roots, including the theory of Exponents, the Binomial Formula for an Entire Exponent, and the Transformation and Reduction of Radicals; Equations of the Second Degree, Progressions, Continued Fractions, Permutations and Combinations, the Doctrine of Limits, the Nature of Series, the Method of Indeterminate Coefficients, Fundamental Properties of Logarithms, Compound Interest and Annuities.

Geometry—Plane, Solid, and Spherical; including fundamental notions of Symmetry, and examples of Loci and Maxima and Minima of Plane Figures,—so much, for example, as is contained in Newcomb's Geometry, exclusive of the chapters on the Ellipse, Hyperbola, and Parabola.

Trigonometry—including the Analytical Theory of the Trigonometrical Functions, and the usual formulæ; the Construction and Use of Trigonometrical Tables; and the Solution of Plane Triangles,—so much, for example, as is contained in the first six chapters of Newcomb's larger Trigonometry and in Arts. 75-78 of chapter viii, with the explanation of the first five tables in Newcomb's Five-figure Logarithmic and Trigonometric Tables, which are furnished at the examinations in New Haven.

While no entrance examination is held in the *History of England*, candidates for admission are urgently advised to make themselves as familiar as possible with that subject, as a knowledge of it is essential to the most successful prosecution of some of the studies of the course.

Candidates will be allowed the option of passing on the above-named subjects in two successive years. In such cases they must present themselves for examination at the June examination of the first year in the following subjects or parts of subjects: *History of the United States, Geography, Arithmetic, Plane Geometry, and Algebra to Quadratic Equations.*

In order to have this preliminary examination counted, candidates must pass satisfactorily on four of the subjects;

and notice of the intention to divide the examination must be given to Professor George J. Brush, Director of the School, on or before June 15.

In his preparation in GEOMETRY the candidate should, as far as practicable, have suitable exercises in proving simple theorems and in solving simple problems for himself. It is important, too, that he should be accustomed to the numerical application of geometric principles, and especially to the prompt recollection and use of the elementary formulæ of mensuration. In TRIGONOMETRY he should be exercised in applying the usual formulæ to a variety of simple reductions and transformations, including the solution of trigonometrical equations. Readiness and accuracy in trigonometrical calculations are also of prime importance to the candidate. If the use of logarithms is postponed in his preparation till Trigonometry is taken up (which is by no means necessary or advisable), he should then have abundant applications of them to all forms of calculation occurring in ordinary practice, as well as to those appearing in the solution of triangles. Finally, in all his calculations, he should study the art of neat and orderly arrangement.

In LATIN the student should have such continued training in parsing as shall make him thoroughly familiar with declensions and conjugations, and with the leading principles of syntax. To secure these results more effectually, the requirement has been adopted of simple exercises in translating English into Latin. As this course of exercises is designed solely as a preparation for reading, it should be begun at the earliest stage of Latin study. A very large proportion of the deficiencies in the Latin examination for several years past has been due to the neglect of the suggestions of this paragraph, and to the attempt to read a Latin author with totally inadequate grammatical preparation.

The examinations for admission in 1888 take place at North Sheffield Hall, on Thursday, Friday, and Saturday, June 28, 29, 30 (beginning at 9 A. M. on Thursday); and on Tuesday and Wednesday, September 18, 19 (beginning at 9 A. M. on Tuesday).

In general, examinations for admission to the Freshman Class of the next year can be held only in June and September as specified; if in any case sufficient reason exists for an exception to this rule, a special fee (not exceeding fifty dollars) will be charged.

In 1888 examinations (for the Freshman Class only) will

also be held in Exeter, N. H., in Andover, Mass., in New York City, in Chicago, in Cincinnati, and in San Francisco (beginning on Thursday, June 28, at 9 A. M.), at places to be announced in local newspapers of the day previous. Candidates who propose to be present are requested to send their names to Professor George J. Brush, Director of the School, before June 15. A fee of five dollars will be charged for admission to the examinations outside of New Haven.

Candidates for advanced standing in the undergraduate classes are examined, in addition to their preparatory studies, in those already pursued by the class which they wish to enter. No one can be admitted as a candidate for a degree, later than at the beginning of the Senior year.

COURSES OF INSTRUCTION, occupying three years, are arranged to suit the requirements of various classes of students. The first year's work is the same for all; for the last two years the instruction is chiefly arranged in special Courses. The Special Courses most distinctly marked out are the following:

- | | |
|---|----------------------------|
| (a.) In Chemistry; | (b.) In Civil Engineering; |
| (c.) In Mechanical Engineering; | (e.) In Natural History; |
| (d.) In Agriculture; | |
| (f.) In Biology preparatory to Medical studies; | |
| (g.) In studies preparatory to Mining and Metallurgy; | |
| (h.) In select studies preparatory to other higher studies. | |

The arrangement of studies is indicated in the annexed scheme. A fuller statement of the methods and character of the instruction will be found below, p. 78. Unless otherwise specified, the number of hours given means hours per week.

FRESHMAN YEAR: INTRODUCTORY TO ALL THE COURSES

FIRST TERM:—*German*—Whitney's Grammar and Reader, 3 hrs. *English*—Lounsbury's History of the English Language, 1 hr.; Exercises in composition. *Mathematics*—The Derivatives of Algebraic Functions; Fundamental Properties of Equations; Plane Analytical

Geometry; 3 hrs. *Physics*—Recitations, 2 hrs., with experimental lectures, 2 hrs. *Chemistry*—Recitations, 2 hrs.; laboratory practice, 2 hrs. *Elementary Drawing*—Practical Lessons in the Art School, 3 hrs. SECOND TERM:—*Language, Physics, and Chemistry*—as stated above. *Mathematics*—Plane Analytical Geometry, continued; Spherical Trigonometry (Newcomb's); 3 hrs. *Physical Geography*—8 Lectures during the term. *Botany*—Gray's Lessons, 3 hours. *Drawing*—Principles of Orthographic Projection; Isometric Drawing with application to drawing from models and structures, and isometric construction of objects from their orthographic projections; Projections of Shadows; Shading and tinting; Sections; Developments and Intersections of Surfaces; 4 hrs.

For the Junior and Senior years the students select for themselves one of the following Courses:

(a.) IN CHEMISTRY:

JUNIOR YEAR:

FIRST TERM:—*Organic Chemistry*—Lectures and Recitations, 2 hrs. *Qualitative Analysis*—Recitations, 2 hrs.; Laboratory Practice, 20 hrs.; Blowpipe Practice and Determinative Mineralogy, 4 hrs. *German*—3 hrs. *French*—3 hrs. SECOND TERM:—*Organic Chemistry*—Lectures and Recitations, 2 hrs. *Quantitative Analysis*—Laboratory Practice, 20 hrs.; Recitations, 2 hrs. *Mineralogy*—Blowpipe Analysis and determination of species, 4 hrs.; Lectures in Crystallography and Descriptive Mineralogy, 2 hrs. *French*—3 hrs. *German*—3 hrs.

SENIOR YEAR:

FIRST TERM:—*Organic and Theoretical Chemistry*—Recitations and Lectures, 2 hrs. *Agricultural Chemistry*—Recitations (optional), 2 hrs. *Quantitative Analysis*—continued six weeks, 20 hrs. *Organic Chemistry*—Experimental work during the remainder of the term, 20 hrs. *Geology*—Dana's; Recitations, 3 hrs. *Zoology*—Lectures, 2 hrs. *French*—3 hrs. SECOND TERM:—*Theoretical Chemistry*—continued, 2 hrs. *Zoology*—continued, 2 hrs. *Agricultural Chemistry*—(optional), 2 hrs. *Analytical Chemistry*—Analysis of Minerals and Technical Products, 20 hrs. *Chemistry*—Analysis of Minerals and Technical Products, 20 hrs. *Assaying*—(optional). *Metallurgy*—Lectures (optional). *Geology*—Dana's, 3 hrs. *Mineralogy*—(optional). *French*—3 hrs., during Winter half-term.

The Laboratory Practice of the second term of the Senior Year may be devoted to such special branches of Analytical or Organic Chemistry as the student may desire, or to original investigations in connection with theses.

(b.) IN CIVIL ENGINEERING:

JUNIOR YEAR:

FIRST TERM:—*Mathematics*—Analytical Geometry of Three Dimensions; Elements of the Theory of Functions; Differential Calculus, with applications to Geometry and Analysis; solution of Numerical Equations; 6 hrs. *Surveying*—Field work, 16 hrs. till November. *Drawing*—Descriptive Geometry, 6 hrs. from November. *German*—3 hrs. *French*—3 hrs.

SECOND TERM:—*Mathematics*—Integral Calculus with applications to Geometry; Rational Mechanics; 6 hrs. *Drawing*—Descriptive Geometry, concluded; Topographical; Practice in working drawings; 6 hrs. *Surveying*—Topographical and Rail Road curves, 16 hrs. *German*—3 hrs. *French*—3 hrs.

SENIOR YEAR:

FIRST TERM:—*Field Engineering*—Location of line of Railroad, setting out, slope stakes, calculation of earth work; Lectures on economic location; Office work; Henck's Field Book; 20 hrs. till November. *Civil Engineering*—Mechanics applied to Engineering; Resistance of Materials; Bridges and Roofs; Stone Cutting with Graphical Problems; 8 hrs. *Geology*—Dana's, 3 hrs. *Mineralogy*—Blowpipe Analysis and Determinative Mineralogy, 4 hrs. *French*—3 hrs.

SECOND TERM:—*Civil Engineering*—Bridges and Roofs; Building Materials; Stability of Arches and Walls; Foundations; 6 hrs. *Dynamics*—Principles of Mechanism; Thermodynamics; Steam Engine; 6 hrs. *Hydraulics*—Hydraulics and Hydraulic Motors, 3 hrs. *Drawing*—Designing; Practical Problems; Specifications and Estimates; 12 hrs. *Astronomy*—Practical Astronomy, with field work, 6 hrs. *Mineralogy*—continued during Winter half-term, 4 hrs. *Geology*—3 hrs. *French*—3 hrs. during Winter half-term.

(c.) IN MECHANICAL ENGINEERING:

JUNIOR YEAR:

FIRST TERM:—*Mathematics*—Analytical Geometry of Three Dimensions; Elements of the Theory of Functions; Differential Calculus, with applications to Geometry and Analysis; Solution of Numerical Equations; 6 hrs. *Surveying*—Theory and Practice; 3 hrs. until November 1st. *Principles of Mechanism*—Kinematics; 1 hr. *Shop Visiting*—Study of Machine Details and Tools; 3 hrs., beginning when Surveying ends. *Drawing*—Descriptive Geometry, 3 hrs. *German*—3 hrs. *French*—3 hrs.

SECOND TERM:—*Mathematics*—Integral Calculus, with applications to Geometry; Rational Mechanics; 6 hrs. *Principles of Mechanism*—

Applied Kinematics; Forms of Teeth of Wheels; Cams; Parallel Motions; Transmission of Power by Belts and Gearing, etc.; 1 hr. until Spring recess, then 2 hrs. *Shop Visiting*—continued, 3 hrs., until Spring recess. *Study of the Steam Engine*—2 hrs. after Spring recess. *Drawing*—Perspective and Shadows; Machine Elements; 3 hrs. *German*—3 hrs. *French*—3 hrs.

SENIOR YEAR:

FIRST TERM:—*Applied Mechanics*—Friction; Moment of Inertia; Centrifugal Force; Elasticity and Strength of Materials; Theory of Flexure and Torsion; Strains in Structures; Construction of Roofs and Bridges; Equilibrium and Pressure of Fluids; Theory of Flotation; Flow of Fluids in Pipes and Channels; Resistance of Ships; 9 hrs. *Machine Designing*—Practical Exercises in Designing Machine Details and Simple Machines, 12 hrs. *Study of the Steam Engine*—continued, 2 hrs. *Visits of Inspection*—Examination of Machinery in operation; Reports of Visits. *French*—3 hrs.

SECOND TERM:—*Applied Mechanics*—continued; Hydrodynamics; Theory of Water-Wheels and Turbines; 6 hrs. *Thermodynamics*—3 hrs. *Study of the Steam Boiler*—2 hrs. *Machine Designing*—continued; advanced exercises in Preparing Designs and Working Drawings for Machinery; Estimates of Weight and Cost of Machinery; 12 hrs. *French*—3 hrs. during Winter half-term. *Thesis. Visits of Inspection and Reports.*

(d.) IN AGRICULTURE:

JUNIOR YEAR:

The course is identical with that in Chemistry, except that in the second term lectures in Crystallography and Descriptive Mineralogy are omitted, and in the Spring half-term Botany is substituted for Determinative Mineralogy.

SENIOR YEAR:

FIRST TERM:—*Agriculture*—Recitations, 2 hrs. *Agricultural Chemistry*—Recitations, 2 hrs. *Geology*—Recitations, 3 hrs. *Zoology*—Lectures, 2 hrs. *Meteorology*—Lectures, 2 hrs. *Botany*—Laboratory Practice, 5 hrs. *English*—Recitations, 2 hrs. *French*—Recitations, 3 hrs.

SECOND TERM:—*Agriculture*—Recitations or Lectures, 2 hrs. *Agricultural Chemistry*—Recitations, 2 hrs. *Physiology*—Recitations or Lectures, 2 hrs. *Geology*—Recitations, 3 hrs. *Zoology*—continued, 2 hrs. *English*—Recitations, 3 hrs. *Heredity and Stock-Breeding*—Lectures, 2 hrs. during Winter half-term. *Sanitary Science and Public Health*—Lectures, 2 hrs. during Spring half-term. *French*—3 hrs. during Winter half-term.

(e.) IN NATURAL HISTORY:

Either Mineralogy, Zoology, or Botany, may be made the principal laboratory study, some attention in each case being directed to the other branches of Natural History.

JUNIOR YEAR:

FIRST TERM:—*Organic Chemistry*—Lectures and Recitations. *Qualitative Analysis*—Fresenius's; Laboratory Practice; Recitations. *Mineralogy*—Blowpipe Analysis and Determinative Mineralogy, 4 hrs. *Botany*—Gray's Manual, 3 hrs.; Laboratory Practice, 3 hrs. *German*—3 hrs. *French*—3 hrs.

SECOND TERM:—*Zoology*—Laboratory Practice, 6 to 12 hrs.; Recitations; Excursions (land and marine). *Botany*—Lectures; Laboratory Practice in the identification of Phaenogamous Plants, 2 hrs. *Physiology*—Huxley's. *Embryology*—Lectures. *Mineralogy*—Blowpipe Analysis and Determinative Mineralogy, 4 hrs. Lectures in Crystallography and Descriptive Mineralogy, 2 hrs. *Physical Geography*. *German*—3 hrs. *French*—3 hrs.

SENIOR YEAR:

FIRST TERM:—*Geology*—Dana's, 3 hrs.; Excursions. *Zoology*—Laboratory Practice, 8 to 12 hrs.; Lectures, 2 hrs.; Recitations, 2 hrs.; Excursions. *Botany*—Laboratory Practice in the Preparation and Examination of Microscopical Specimens, illustrative of Stem-structure and of the Anatomy of the higher Cryptogamous Plants, 5 hrs.; Excursions. *Meteorology*—Lectures, 2 hrs. *French*—3 hrs.

SECOND TERM:—*Geology*—Dana's, 3 hrs. *Anatomy of Vertebrates*—Huxley's, 2 hrs. *Zoology*—Laboratory Practice, 8 to 12 hrs.; Recitations, 2 hrs.; Lectures, 2 hrs. *Botany*—Herbarium Studies, especially in the Cryptogamous Orders; Botanical Literature; Essays in Descriptive Botany. *Sanitary Science*, *Laws of Heredity*, and *Principles of Breeding*—Lectures. *French*—3 hrs. during Winter half-term.

Besides the regular courses of recitations and lectures on structural and systematic Zoology and Botany, and on special subjects, students are taught in the laboratories to prepare, arrange, and identify collections, to make dissections, to pursue investigations, and when sufficiently advanced, to describe genera and species in the language of science. For these purposes, large collections in Zoology belonging to the College are available, as are also the private botanical collections of Professor Eaton.

(f.) IN BIOLOGY PREPARATORY TO MEDICAL STUDIES:

JUNIOR YEAR:

FIRST TERM:—*Organic Chemistry*—Lectures and Recitations, 2 hrs. *Qualitative Analysis*—Fresenius's; Laboratory Practice, 20 hrs.; Recitations, 2 hrs. *Mineralogy*—Blowpipe Analysis and Determinative Mineralogy, 4 hrs. *German*—3 hrs. *French*—3 hrs.

SECOND TERM:—*Anatomy and Histology*—Laboratory Practice, 18 hrs.; Lectures and Recitations, 1 hr. *Physiology*—Huxley's; Recitations, 2 hrs. *Embryology*—8 Lectures during the term. *Organic Chemistry*—continued, 2 hrs. *Mineralogy*—continued through Winter half-term, 4 hrs. *Botany*—Lectures; Laboratory Practice in the identification of Phaenogamous plants, 5 hrs. during Spring half-term; Excursions. *German*—3 hrs. *French*—3 hrs.

SENIOR YEAR:

FIRST TERM:—*Physiological Chemistry*—Recitations and Lectures, 3 hrs.; Laboratory Practice, 13 hrs. *Organic and Theoretical Chemistry*—Lectures and Recitations, 2 hrs. *Zoology*—Lectures, 2 hrs. *Botany*—Laboratory Practice in the Preparation and Examination of Microscopical Specimens, illustrative of Stem-structure, and of the Anatomy of the higher Cryptogamous Plants, 5 hrs. *Geology*—Dana's, 3 hrs. *French*—3 hrs.

SECOND TERM:—*Physiological Chemistry and Experimental Toxicology*—Illustrative Lectures, Recitations, and Laboratory Practice, 27 hrs. *Geology*—Dana's, 3 hrs. *Zoology*—continued, 2 hrs. *Sanitary Science*—Lectures, 2 hrs. during Spring half-term. *Laws of Heredity and Principles of Breeding*—Lectures, 2 hrs. during Winter half-term. *French*—3 hrs. during Winter half-term.

(g.) IN STUDIES PREPARATORY TO MINING AND METALLURGY:

Young men desiring to become Mining Engineers can pursue the regular Course in Civil or Mechanical Engineering, and at its close can spend a fourth year in the study of Metallurgical Chemistry, Mineralogy, etc.

(h.) IN THE SELECT STUDIES PREPARATORY TO OTHER HIGHER STUDIES:

JUNIOR YEAR:

FIRST TERM:—*Mineralogy*—Blowpipe Analysis and Determinative Mineralogy, 8 hrs. *Astronomy*—Recitations, 4 hrs. *English*—Early English, 2 hrs. *History*—Green's Short History of the English People, 2 hrs. *French*—3 hrs. *German*—3 hrs.

SECOND TERM:—*Mineralogy*—Lectures; Laboratory work, 8 hrs. during Winter half-term. *Botany*—Lectures; Laboratory Practice in the identification of Phaenogamous Plants, 2 hrs. during Spring half-term. *Physical Geography*—4 hrs. during Winter half-term; Recitations from Guyot and Lectures. *English*—Chaucer, Bacon, Shakspeare, 2 hrs. during Winter half-term, 3 hrs. during Spring half-term. *History*—Green's History, continued, 2 hrs. during Winter half-term, 4 hrs. during Spring half-term. *German*—3 hrs. *French*—3 hrs.

SENIOR YEAR:

FIRST TERM:—*Geology*—Recitations, 3 hrs.; Excursions. *Zoology*—Lectures, 2 hrs. *English*—Shakspeare, 2 hrs. *Meteorology*—Lectures, 2 hrs. *Constitutional Law*—4 hrs. *French*—3 hrs.

SECOND TERM:—*Geology*—continued, 3 hrs. *Zoology*—continued, 2 hrs., during Winter half-term. *Meteorology*—Lectures, 2 hrs. during Winter half-term. *Sanitary Science*—Lectures, 2 hrs. during Winter half-term. *Political Economy*—Recitations, Exercises and Lectures, 4 hrs. *English*—Shakspeare, Milton, Dryden, Pope, Gray, and later authors, 3 hrs. *French*—3 hrs. during Winter half-term.

Exercises in English Composition are required during the entire course from all the students. The preparation of graduating theses is among the duties of the Senior year.

Lectures on Military Science and Tactics are annually given by officers of the United States Army.

The following account of the various subjects specified in the above scheme will explain the character and aim of the instruction.

ELEMENTARY CHEMISTRY.—The exercises in Elementary Chemistry consist in recitations from a text-book and experiments by the students in the laboratory to illustrate statements in the book. The object of the laboratory work is to facilitate the study of the subject, and to train the students in manipulation and in the observation of chemical phenomena. Notes are required and students are questioned on the experiments. As the class is divided according to scholarship in Chemistry and Physics, opportunity is given to those who are most proficient to make rapid progress.

ANALYTICAL CHEMISTRY.—*Qualitative and Quantitative.*—This study is intended to serve two purposes. Analytical Chemistry is used by the

advanced student as a means of investigation in scientific or technical researches. The beginner, however, derives from its study advantages of another kind. The knowledge of the properties of chemical compounds, the familiarity with chemical reactions gained by experience in the laboratory, and the development of the reasoning faculties by the application of this knowledge in analytical processes, enable the student to generalize and classify chemical phenomena and aid him to understand the more abstract theories of chemical philosophy. The method of instruction adopted is conformed to this view of the uses of the study. Text-books are used and recitations are required, but the more important part of both study and instruction is performed in the laboratory. In order to solve the problems which are there constantly presented, the student, aided by books and instructors, must learn both principles and their applications. The student, throughout his course in Analytical Chemistry, spends four consecutive hours in laboratory work during five days of the week. The laboratory, however, is kept open seven hours daily for the benefit of graduate students and others who desire to devote more time to this study.

Qualitative Analysis forms a part of the courses in Chemistry, Biology, Agriculture, and Natural History. Quantitative Analysis is one of the more important studies of the Senior year in the Chemical Course. It is also included to some extent in the Agricultural Course.

ORGANIC CHEMISTRY is taught by informal lectures and experimental illustrations as well as by text-book drill, a lesson from Richter's Organic Chemistry being given out for each instruction-hour. The class has two exercises weekly throughout three terms. The course is adapted to give a fairly complete outline of the subject and some familiarity with the more important bodies and classes of bodies.

In addition to this, the Senior students in the Chemical Course are required to spend 20 hours per week during the latter half of the first term in experimental work in Organic Chemistry. This is intended to supplement the preceding course and at the same time to serve as a preliminary training for such students as desire to make a special study of Organic Chemistry.

Opportunity is also afforded for the carrying on of original investigations in this subject, either in connection with theses or as a part of the regular work in the case of advanced students.

PHYSIOLOGICAL CHEMISTRY and EXPERIMENTAL TOXICOLOGY.—Physiological Chemistry is taught by laboratory exercises, illustrative lectures, and recitations. Each student is provided with a suitable working place in the laboratory, well equipped with all needed apparatus and material. The regular course of work, designed especially for Senior students in the Biological Course, extends throughout one year and embraces a thorough study of the chemical composition of the various

tissues and fluids of the body, together with a study of the chemical and physiological processes of respiration, digestion, secretion, excretion, and nutrition in general.

Beginning with a study of the albuminous bodies, the experimental work extends through the epithelial, connective, contractile, and nerve tissues. Proceeding then to digestion, the various digestive fluids are studied, artificial digestions are made, and the several products of digestive action isolated and studied. The blood and urine are next considered, and students are taught to make both qualitative and quantitative analyses of the latter and to identify abnormal constituents. A portion of one term is also devoted to a study of the chemical reactions of the more important mineral and organic poisons, and their physiological action determined experimentally. Students are also taught how to separate poisons from organic tissues and fluids, and to identify them both by chemical and physiological reaction. During the latter half of the second term, Senior year, opportunity is afforded for the carrying on of original investigations on some selected subject in either physiological chemistry or toxicology, in connection with the preparation of graduating theses. The course of work is particularly recommended to students intending to enter upon a course of medical studies.

ANATOMY AND ELEMENTARY PHYSIOLOGY.—The object sought in the instruction in Anatomy and Physiology, as taught during Junior year, is the manual and mental training of the student in the methods of investigation by which the facts and principles of these sciences have been established, and at the same time to give him a sufficient knowledge of their elements to enable him to pursue with profit the special studies of the Biological Course as a preparation for medical studies. With this end in view, four forenoons each week are given to laboratory work in Anatomy and Histology. The student, under the immediate supervision of the instructor, dissects specimens of a number of different animals, and is required to make careful sketches and records of his work; he also examines the different animal tissues with the microscope, makes microscopical preparations, and is taught the methods of anatomical and histological investigation. This work is reviewed each week by means of text-book and recitation or lecture and examination. The elements of Human Physiology are taught by text-book, recitations, and demonstrations. The physiology of digestion and nutrition is taught during Senior year in connection with Physiological Chemistry. During the last part of the term there is a short course of lectures on Embryology with special reference to Human Morphology.

GEOLOGY.—The course in Geology includes recitations and oral instruction extending through the entire year on alternate mornings. During the first half-year, the recitations are attended by the entire

Senior Class, except those in the course in Mechanical Engineering. This part of the course includes Physical, Lithological, and Dynamical Geology. These subjects are illustrated by diagrams and specimens. During the first term each student is required to make a collection containing a specified number of the most important rocks and minerals, and to pass a thorough examination upon them at the end of the first term; the object is to compel every student to become personally familiar with the appearance as well as with the composition and other characters of the rocks and minerals that are of most importance in Geology, as well as in the arts.

The last half of the year is devoted to Historical Geology and Palaeontology. This part of the course is pursued by all the Seniors except those in the courses in Mechanical and Civil Engineering. Suitable collections of fossils are used to illustrate the subject.

Opportunities are afforded for optional geological excursions during the warmer months.

MINERALOGY.—The instruction in Mineralogy is carried on by means of practical work in a laboratory especially fitted up for the purpose, and is intended to familiarize the student with the common minerals, attention being devoted especially to those which are of economic, geological, or scientific importance. To understand better the chemistry of the subject, the student is first made familiar with the simple chemical and blow-pipe reactions useful in testing minerals, and applies this knowledge later to the determination of unknown species. The students have access to a labeled collection where they can study the properties of the minerals and make comparisons, and also to extensive unlabeled collections, arranged especially to give them practice and facility in the correct identification of minerals. In addition to the laboratory work, instruction is given in Crystallography, illustrated by a collection of models and natural crystals. The lectures in Descriptive Mineralogy to the more advanced students are illustrated by means of the extensive private collection of Professor Brush. The laboratory is provided with apparatus for the thorough chemical or physical investigation of minerals and with an extensive library to which the students have access. The laboratory is open seven hours each day to accommodate any who desire to devote more time and attention to the subject than is laid out in any of the prescribed courses.

ZOOLOGY.—The instruction in Zoology includes a course of lectures on Systematic Zoology, Morphology, and Embryology, which are attended by all the Seniors except those in the courses in Mechanical and Civil Engineering. These lectures are generally given twice a week, and continue during about half the year. The students are required to keep careful notes of the lectures.

Students in the Natural History Course are also required to pursue a course of laboratory instruction during the second term of the Junior and all of the Senior year. This generally occupies two to four hours a day on four days of each week. It includes dissections of various classes and orders of animals, with microscopic studies of the finer structures and of minute animal forms, as well as work in Systematic Zoology.

Special courses of recitations or lectures on particular subjects are also given when desirable.

BOTANY.—The scheme of instruction provides for three successive courses of study, as either ending the study for the ordinary student, or introducing it for one who desires to become a professional botanist.

The first or elementary course, which is required of all the Freshmen, is designed to teach the nature of the visible organs of flowering plants, tracing the life-history of vegetation from seed, through stem and root, leaves, branches, buds, blossoms and fruit, to seed again. The method consists mainly in the use of some easy text-book, like Gray's *Lessons*, with whatever illustrations and explanations may be needed to secure the student's attention. The second course, coming the next year, is restricted to the sections in Biology, Natural History, Agriculture, and Selected studies, and is intended to enable the student to recognize the chief natural orders of native plants, with the ability to identify the common species. The class meets two or three times a week in spring and summer, and is practiced in identifying plants, using Gray's *Manual* as a standard, and employing the ordinary simple dissecting microscope. At this point the instruction for the Select Course ceases; in the next fall term the work for the Courses in Biology, Natural History, and Agriculture is entirely practical, books being used only for reference. Students begin with cutting thin sections of some common woody and herbaceous stems, and are shown how to prepare such sections for examination and for permanent preservation as microscopic objects. After acquiring some facility in microscopical manipulation, various parts of flowering plants are brought in for dissection and examination, and towards the close of the term some attention is given to Ferns, Mosses, and Algae. This finishes the course for ordinary students; for those who may desire to prosecute the science professionally, the work is arranged to suit individual requirement, whether it be in the direction of Histology, or of Systematic Botany as applied to flowering plants, or to Ferns, Mosses, Hepatics, or Algae.

AGRICULTURE.—The special instruction in the science of Agriculture is by recitations and lectures, with such aids and appliances as are suited to the class-room. Besides Agricultural Chemistry, it includes a discussion of the cultivation of the staple field crops of the country; the production of live stock; theories of rural economy and systems of husbandry; the laws of heredity and principles of stock-breeding.

SANITARY SCIENCE.—The lectures on this subject discuss the natural laws which govern the public health; their relation to the social habits and condition of communities; instruction in the use of mortuary statistics; epidemics and pestilences, with their relations to the prosperity of a community, and methods of control; the germ theory of disease and theory of disinfectants; the hygiene of private dwellings and public buildings; the relations of public health to water supply and to sanitary engineering; legislation relating to the public health and the methods of official sanitary administration.

MATHEMATICS.—The Mathematical studies of the Freshman Year are pursued by all members of the class; those of the Junior Year by students in the courses of Engineering and properly qualified Special Students who may choose them. During the latter year, in connection with the instruction briefly indicated in the scheme above [p. 74], a course of familiar lectures is given to supplement the ordinary classroom exercises.

PHYSICS.—The object of the experimental lectures is not only to elucidate the subjects treated in the text-book employed, but also to extend the treatment of such subjects, and to introduce others where thought desirable. A considerable portion of the work of the year is the preparation for recitation on matter thus presented.

At the end of November the Freshman class is redivided into three sections, according to capacity shown in the subjects of Chemistry and Physics. After this, although the experimental lectures will be attended as before by the class as a whole, the higher divisions will be able to pursue the studies more thoroughly.

The facilities of the Physical Laboratory will be extended to such graduate students and Seniors as may desire them.

Course in Advanced Physics.—A course of two lectures per week, beginning in January, supplemented by laboratory work. The earlier portion of the time is devoted to the theory of observation and the method of least squares. The course is optional to all who have a command of the calculus.

CIVIL ENGINEERING.—The object of this course is to give a thorough preparation, first of all, in the principles of the various sciences involved, and afterwards, as extensive practice in the application of these principles as the time at disposal, the ability of the students, and the facilities and plant permit.

Under the first head are included such subjects as Mathematics, Physics, Mechanics, Thermodynamics, Astronomy, Geology, Mineralogy, Chemistry, and Botany; and under the second head, Drawing, Surveying, Strength and Properties of Materials, and Design and Construction of various kinds, such as Bridges, Roofs, Foundations, Arches, Retain-

ing Walls, Dams, Water Works, Railroads, Improvement of Rivers and Harbors, Sewerage and Drainage, Water Motors, etc.

The first division includes Civil Engineering as a Science, the other Civil Engineering as an Art. The ground covered by the first is definite, and the instruction is made as thorough as possible. The ground covered by the second is of almost indefinite extent. Here, by a careful selection of practical examples, such as occur in engineering practice, the application of principles is illustrated, and together with the analytical or algebraic methods, the student is also instructed in practical graphic solutions, wherever such solutions present a special value. Much time is devoted to geodetic operations and to surveying in the field. Instruction is given in the practical operations connected with the reconnaissance, location, and surveys of roads, canals, and railroads, such as setting out, cross-sectioning, setting grade stakes, calculation of earth work, etc. Thorough instruction is given in drawing and design, the construction of working drawings and principles of designing as applied to bridges, roofs, etc.

The instruction is by means of practical exercises, lectures, and recitations, so combined as to develop so far as possible the mental powers of the student. Visits of inspection are made at suitable intervals to private and public works of engineering interest.

The entire course requires five years, three years of undergraduate and two of graduate instruction; and a Thesis of merit upon some approved subject, accompanied by designs and estimates, is required upon the completion of the course, as also at the end of the first three years. Examinations are also held at the end of every term and year.

In what follows, such details are given as may be of interest to those who contemplate taking the course.

Mathematics—6 hours weekly, Junior Year, both terms. See Synopsis of Course.

French and German—Students in this course take in the Junior Year the regular studies of the Junior Class in both German and French, 3 hours each. In the Senior Year, French is continued, 3 hours, during the Winter half-term.

Drawing and Descriptive Geometry—Drawing is begun at once in the first term of Freshman Year, under the charge of the Street Professor of Drawing in the Art School, and includes practice in free hand drawing. In the second term, under the Instructor in Instrumental Drawing, the students take isometric drawing with application to drawing from models and structures by measurement, shading, tinting, conventional use of colors, principles of orthographic projections, and practice in making simple working drawings, 4 hours both terms.

The Drawing of Junior Year, 3 hours, both terms, includes Descriptive Geometry, the drawing of structures from measurement, and elements of design for simple structures. The instruction is by recitations,

lectures, practical exercises and models, and is under the charge of the Instructor in Instrumental Drawing and the Professor and Instructor in Civil Engineering. Included in the work of this year is also the mapping of surveying field notes.

In the Senior Year, the drawing consists of the mapping of the surveys of that year, and the designing of structures and finished drawings, designs and estimates, under the charge of the Professor and Instructor in Civil Engineering, 6 hours both terms.

Surveying and Field Engineering—The instruction in the field occupies about 20 hours for six or more weeks in both terms of Junior and Senior Year. The exercises at these times are so arranged as to secure as much consecutive time as possible in the field. In Junior Year the use and adjustments of the instruments are learned and practice surveys made, together with recitations and lectures upon surveying operations and methods of keeping field notes. Levels are run, surveys made, plotted and checked; blue print copies of drawings made, the use of compass, level and transit acquired. In the second term of Junior Year land and topographical surveys are made and railroad curves run.

In the first term of Senior Year a line of railroad is located and set out from a contour map previously obtained, grades and curves established and set out, and computations made. The theory of the economic location is taught by lectures and recitations in connection with the field work. The work is arranged so that each student has sufficient practice in all the various operations. The text-books used are Gillespie and Johnson's works, Henck's Field Book, Gore's Elements of Geodesy, and Merriman's Theory of Least Squares. The course is under the charge of the Professor and Instructor in Civil Engineering, aided by several assistants.

Mechanics of Engineering—Senior Year, 6 to 8 hours, both terms. The text-books of Weisbach, 1st and 2d volumes, are used in connection with lectures and solution of practical problems in illustration of the various topics. The course includes thorough instruction in the strength of materials, the stability of foundations, retaining walls, dams and embankments, and masonry arches, by lectures and graphic methods. Questions of hydraulics, water supply, and measurement of discharge, receive attention, and the theory and construction of water motors. A course in Thermodynamics with application to air and steam engine is also included.

Construction and Design—Senior Year, 6 hours both terms. A thorough course is given in the determination of stresses and the detailed design of roofs, bridges, etc., with working drawings, specifications and estimates. Visits of inspection are made, and recitations and lectures held in connection with the work in the drawing room.

Astronomy—A course is given under the charge of the Professor in Astronomy, 6 hours, second term of Senior Year, including practical work and the use of the sextant and transit in determining time, latitude, and azimuth.

Geology—This course occupies 3 hours up to the middle of the second term of Senior Year.

Mineralogy—This course, under the Instructor in Mineralogy, occupies 3 hours up to the middle of the second term in Senior Year.

A course of lectures on the theory of electricity and its applications, by the Professor of Physics, is open to students in this Department, and can be taken as a part of the preparation for a graduate course in the higher branches of electrical science.

MECHANICAL ENGINEERING—The objects aimed at in the plan of instruction in this course are, to give to the student a thorough training in elementary and advanced Mathematics and Physics, and their application to the Science of Construction; to make him familiar with the general principles of Engineering and with the practical details of mechanical construction through which these principles are made useful; and to enable him ultimately in beginning the work of his profession to bring to bear upon it a well balanced store of theoretical and practical knowledge, and a mind trained in correct habits of thought and work.

The complete course covers five years, three of which are spent in undergraduate study, and two in a graduate course, a portion of which may be spent in actual practical work. The subjects and methods of instruction in the undergraduate course are as follows:—

Mathematics—See synopsis, page 83.

French and German—Students take in the Junior year the regular studies of the Junior Class in both French and German. In the Senior year French is continued during the Winter half-term.

Surveying—A short course in Surveying comprises lectures on methods of surveying and the construction and use of instruments, also practice in field work in the use of the level and transit, city surveying, establishing grades, and laying out buildings.

Shop Visiting divides the time equally with Drawing in the Junior year until the Spring Recess. The student, accompanied by the instructor, is employed in studying machinery in use and in process of construction in different machine shops in the city. He is required to make satisfactory, carefully dimensioned sketches, from measurements taken by himself, of the complete machines and their parts, and to describe the tools and mechanical operations used in producing the simpler pieces.

Drawing—Descriptive Geometry is taught in the drawing room by lectures and recitations, and by exercises at the drawing board, where

the problems are solved graphically by the student. Instruction in drawing *Machine Elements* is given in the Junior year. Models and cartoons showing examples of approved practice are used by the instructor, who also gives personal attention to each student's work at the board as it progresses.

Principles of Mechanism—This is a course in theoretical and applied Kinematics. Instruction is by text-books and lectures illustrated by diagrams and models, an extensive collection of which belongs to the School and is accessible to the student.

Steam Engine—Recitations and lectures in this subject begin in the Junior year, after the Spring Recess. They relate to the structural details of engines and to the mechanical principles involved in their working. The subject is continued in the first term of Senior year, when particular attention is directed to various kinds of valve gear, the governor, the fly-wheel, balancing, and the effect of the weight of the reciprocating parts. In the second term of Senior year, the study of *Steam Boilers* takes the place of that of Engines.

Indicator Practice—In the Senior year the student is afforded opportunities to apply the indicator to various engines in operation, and has practice in reading indicator cards and measuring them by the planimeter. He is taught to detect such defects in the engine as are shown by the cards.

Applied Mechanics—In this course lectures, recitations, and exercises in the solution of practical problems, relate to the topics specified under this head in scheme on page 75.

Thermodynamics—Recitations and lectures on the mechanical theory of heat and its application to hot-air engines, gas engines, and the steam engine.

Machine Design—The course in this subject consists chiefly in practical exercises at the drawing board, and partly in lectures on the functions of machines and the mechanical principles which are applied in determining the proportions of machinery. The student, under the guidance of an experienced instructor, is employed in making complete working drawings of machines, many examples of which are in the drawing rooms and the basements of the school. He does not copy the examples, but is required to change the dimensions and in many cases to alter the design, and is ultimately taught to make partly new designs of important machinery, such as cranes, yacht engines, machine tools, boilers, etc. The discipline the student receives is such as he would obtain in the drawing office of an engineering establishment, while he is also carefully instructed in the theory of the subjects he deals with, and in the practical bearing of all his work.

In the Senior year several excursions are made by the class, accompanied by one or more instructors, to neighboring manufacturing and engineering centers, where large manufactories, pumping works, ocean

steamers, etc., are visited. Full notes must be taken, and a satisfactory written report upon the machinery examined is required of the student.

Thesis—Before graduating, the student must present a satisfactory thesis on some subject approved by the professor in charge of the department of Mechanical Engineering.

A course of lectures on the theory of Electricity and its applications is open to students in this department, and these lectures can be taken as a part of the preparation for a graduate course in the higher branches of electrical science.

ASTRONOMY—Students in the Select Course receive instruction in Astronomy during Junior year, first term, four hours per week.

Students of Civil Engineering during the second term of their Senior year have six recitations per week, and also practical experience in the determinations of time, azimuths, latitude, longitude, etc.

ENGLISH—The course is designed to give the student acquaintance with the great representative writers of the various epochs. A history of the language is one of the studies of the Freshman year; and after that year the study of the language is made entirely subordinate to that of the literature. During the first term of Junior year, however, extracts from Early English authors are read, and Early English grammar studied, so as to familiarize the student with the inflections then in use, and the distinctions existing between the leading dialects. It is the aim of this term's work to give such knowledge of forms, and to some extent of words, that the student will be able to read at sight any Early English author whose writings do not involve special difficulties of language or vocabulary.

With the second term the regular study of English literature proper begins with Chaucer; and for the rest of the course till the end of Senior year the following authors are read: Bacon, Shakespeare, Milton, Dryden, Pope, Gray, Goldsmith, and later writers. Those mentioned in the list are always studied, but other authors not named are also taken up, the course varying somewhat in different years. In all cases complete works of a writer are studied, not extracts; as for instance several of Chaucer's Tales, and several of the plays of Shakespeare. The authors are taken up in chronological order, and the literary history of the time is likewise carried on in connection with the great representative writers of each period.

GERMAN—The aim in this department is to give such a knowledge of facts and principles as shall qualify the student as rapidly as possible to use the language for such various purposes as his special needs may require, and particularly to facilitate the use of German treatises in his later special studies. To accomplish this, the course consists of the combination of the study of systematic German grammar with a complement-

ary and progressive course of oral translation from English into German, the latter being designed for the double purpose of increasing the command of grammatical principles, and through the establishment of a habit of ready and accurate expression, of laying the foundation for future colloquial use of the language. In connection with the foregoing it is attempted to introduce the student to as many different styles and as many forms of composition as the time allows. For this purpose the reading matter is in general selected from readers and collections prepared for the use of schools in Germany, and characterized by the number and variety of their extracts, thus enabling the instructor to select pieces that illustrate one another and to avoid similar lines of reading with successive classes. Constant attention is paid during a portion of the course to English affinities, to analogies in the formation of English and German abstract terms, to the commoner rhetorical resemblances and differences, to the details of arrangement in German sentences, and the development of secondary from primary significations of words.

In view of the shortness of the course there is no attempt to secure any considerable acquaintance with German literature. A body of representative pieces of lyric poetry, however, is made the basis of careful literary study, with special attention to poetic diction and variety of metrical form. Memorizing German poems is practiced to some extent as a class exercise, as also retranslation of dictated literal versions of simple pieces into German verse, in accordance with prescribed rhythm and sequence of rhyme.

Occasionally, when the proficiency of a class allows it, an advanced division is organized, which is thus enabled to read a much larger amount of matter and to pursue more critical methods. The attention of such a division is sometimes given for a few months to extracts treating leading events of German history, with a collateral course of German historical poetry, the selections being made so as to be mutually illustrative. Historical poems not contained in the text-books are often furnished by dictation.

During the last few weeks of the course, there is an attempt to initiate the student into the art of rapid and intelligent, though uncritical reading, dispensing largely with dictionary and grammar and aiming to form independent habits of observation and induction. For this purpose recourse is had to entertaining novels.

In general, it is the endeavor, while aiming primarily and constantly at acquiring a working knowledge of contemporary German, to combine habitually scientific and empirical methods, to enforce correct notions as to the nature of language, to secure incidentally some of the most important disciplinary results of elementary linguistic study, and to give some conception, by suggestive questions and occasional statements, of the various special directions which a more extended and advanced course would necessarily take.

The time allotted to the subject is three hours a week during the Freshman and Junior years.

Regular text-books: Whitney's German Grammar; Whitney's German Dictionary; Ahn's Exercises, or Eysenbach's German Exercises.

FRENCH—To avoid repetition, it will suffice to state that much the same course is pursued in French as above detailed for the German, and on like principles. The three weekly exercises extend through the entire Junior, and most of the Senior year, based on a systematic review of the essential elements as exhibited in Whitney's French Grammar, supplemented by Ahn for the more practical part. In the Junior year, a wide extent of reading is insisted on, beginning with the simpler novels, such as "Le Conscrit," "L'Ami Fritz," "La Petite Fadette," etc., through a scale of diversified vocabulary by which at last sight-reading of such matter as is more appropriate to the department may be profitably entertained. The practical or conversational course runs along parallel with the more systematic study of the language.

In the second year, the aim is to familiarize the student with practical terms and expressions of a scientific cast, rather than with the purely literary language. Hence practical works, such as books of travel and Maxime Du Camp's Paris, ses Organes, ses Fonctions et sa Vie, especially those chapters describing the railways, the sewers, the Seine, the street-lighting, etc., have seemed best adapted to the general object in view.

HISTORY—The greater part of the work is carried on by means of recitations, Green's Short History of the English People being used as a text-book. The students are also required to look up special topics, and to give the results of their studies to the class: the books used for this purpose are drawn from a small historical library in the class-room. The location of places is enforced by the use of outline maps which the students are required to fill in. Particular attention is given to the history of institutions and to the constitutional and economic growth of the country.

POLITICAL ECONOMY—In the beginning of the course an effort is made to familiarize the students with the fundamental principles of Economics and more particularly to train them in economic reasoning. More difficult problems are then taken up and discussed, and special topics are assigned to the class for investigation. A small library has been provided, which contains a number of copies of each of the principal authorities, in order that the students may be able to familiarize themselves somewhat with the literature of the subject, without expense to themselves.

THE TERMS AND VACATIONS correspond with those of the College. (See Calendar, p. 6.)

EXPENSES—The charge for tuition for undergraduate students is \$150 per year, payable \$55 at the beginning of the first and second terms, and \$40 at the middle of the second term. An additional charge of \$5 a year is made to each student for the use of the College Reading Room and Gymnasium, which is payable at the beginning of the first term, making the total charge for that term \$60. The student in the Chemical course has an additional charge of \$70 per annum for chemicals and use of apparatus. He also supplies himself at his own expense with gas, flasks, crucibles, etc., the cost of which should not exceed \$10 per term. A fee of \$5 is charged members of the Freshman Class for chemicals and materials used in their laboratory practice, and the same fee is required from all (except Chemical students) who take practical exercises in Blowpipe Analysis and Determinative Mineralogy. A fee of \$5 a term is also charged to students in the Zoological and Anatomical Laboratories, for materials and use of instruments.

For the graduate students the charge for tuition is one hundred dollars per year.

THE GRADUATION FEE in the case of BACHELORS OF PHILOSOPHY is \$10, unless the person taking the degree is also a graduate of the College, when the fee is but \$5.

SCHOLARSHIPS

STATE SCHOLARSHIPS—By an Act passed in 1863, the General Assembly of Connecticut established certain scholarships from the income of the fund derived from the National Grant of July, 1862, for the promotion of scientific education. There are now about twenty-three of these scholarships (the number depending upon the income of the fund), designed to aid by free tuition young men fitting themselves more especially for pursuits in agriculture, manufacturing, and engineering.

The applicants must be citizens of Connecticut. The appointing board consists of the Board of State Visitors (see p. 68) and the Secretary of the School; it meets on the Tuesday before Commencement (viz: on June 26, 1888), to fill the vacancies for the next University year. Applications should be made, previous to that date, to Professor George J. Brush, Secretary of the appointing Board.

THE HOLMES SCHOLARSHIP, founded by Samuel Holmes, Esq., amounts to \$60 per year. The recipients must be citizens of Middlebury, Prospect, Waterbury, or Wolcott, Connecticut; the appointments are made by the Board of Agents of the Bronson Library in Waterbury.

DEGREES

THE DEGREE OF BACHELOR OF PHILOSOPHY is conferred on those who have completed one of the three-year courses, and have passed the examination at its close.

CIVIL ENGINEER AND DYNAMIC OR MECHANICAL ENGINEER—see page 97.

DOCTOR OF PHILOSOPHY—see page 96.

COURSES OF GRADUATE INSTRUCTION

FACULTY

- REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT
 REV. NOAH PORTER, D.D., LL.D., *Professor of Moral Philosophy and Metaphysics*
 ELIAS LOOMIS, LL.D., *Professor of Natural Philosophy and Astronomy*
 JAMES D. DANA, PH.D., LL.D., *Professor of Geology and Mineralogy*
 CHESTER S. LYMAN, M.A., *Professor of Astronomy*
 REV. JAMES M. HOPPIN, D.D., *Professor of the History of Art*
 EDWARD J. PHELPS, LL.D., *Professor of Law*
 WILLIAM D. WHITNEY, PH.D., LL.D., *Professor of Sanskrit and Comparative Philology*
 HUBERT A. NEWTON, LL.D., *Secretary, and Professor of Mathematics*
 GEORGE J. BRUSH, LL.D., *Professor of Mineralogy*
 SAMUEL W. JOHNSON, M.A., *Professor of Theoretical and Analytical Chemistry*
 WILLIAM H. BREWER, PH.D., *Professor of Agriculture*
 JOHN F. WEIR, N.A., M.A., *Professor of Painting*
 JOHN E. CLARK, M.A., *Professor of Mathematics*
 DANIEL C. EATON, M.A., *Professor of Botany*
 ARTHUR M. WHEELER, M.A., *Professor of History*
 ADDISON VAN NAME, M.A., *Instructor in Japanese*
 J. WILLARD GIBBS, PH.D., *Professor of Mathematical Physics*
 CHARLES B. RICHARDS, M.A., *Professor of Mechanical and Dynamical Engineering*
 ARTHUR W. WRIGHT, PH.D., *Professor of Experimental Physics*
 THOMAS R. LOUNSBURY, M.A., *Professor of English*
 OTHNIEL C. MARSH, PH.D., LL.D., *Professor of Palaeontology*
 WILLIAM I. KNAPP, PH.D., *Professor of Modern Languages*
 JOHN H. NIEMEYER, M.A., *Professor of Drawing*
 FRANKLIN B. DEXTER, M.A., *Professor of American History*
 TRACY PECK, M.A., *Professor of Latin*

ADDISON E. VERRILL, M.A., *Professor of Zoology*
 WILLIAM G. SUMNER, LL.D., *Professor of Political and Social Science*
 REV. GEORGE T. LADD, D.D., *Professor of Mental and Moral Philosophy*
 SIDNEY I. SMITH, M.A., *Professor of Comparative Anatomy*
 WILLIAM G. MIXTER, M.A., *Professor of Chemistry*
 HENRY P. WRIGHT, PH.D., *Professor of Latin*
 HENRY A. BEERS, M.A., *Professor of English Literature*
 A. JAY DUBOIS, PH.D., *Professor of Civil Engineering*
 EDWARD S. DANA, PH.D., *Assistant Professor of Natural Philosophy*
 THOMAS D. SEYMOUR, M.A., *Professor of Greek*
 CHARLES S. HASTINGS, PH.D., *Professor of Physics*
 WILLIAM R. HARPER, PH.D., *Professor of the Semitic Languages*
 FRANK A. GOOCH, PH.D., *Professor of Chemistry*
 RUSSELL H. CHITTENDEN, PH.D., *Professor of Physiological Chemistry*
 HENRY W. FARNAM, R.P.D., *Professor of Political Economy*
 ARTHUR T. HADLEY, M.A., *Professor of Political Science*

OTHER INSTRUCTORS

REV. GEORGE P. FISHER, D.D., LL.D., *Professor of Ecclesiastical History*
 WILLIAM C. ROBINSON, LL.D., *Professor of Law*
 SIMEON E. BALDWIN, M.A., *Professor of Comparative Jurisprudence*
 JOHNSON T. PLATT, M.A., *Professor of General Jurisprudence*
 FREDERIC R. HONEY, PH.B., *Instructor in Perspective*
 JOHN P. C. FOSTER, M.D., *Instructor in Anatomy*
 SAMUEL L. PENFIELD, PH.B., *Instructor in Mineralogy*
 HORACE L. WELLS, PH.B., *Instructor in Analytical Chemistry*
 ALFRED L. RIPLEY, B.A., *Assistant Professor of German*
 EDWARD V. RAYNOLDS, D.C.L., *Lecturer on Roman and Constitutional Law*
 HENRY C. WHITE, M.L., *Lectures on Local Government*
 EDWARD G. BOURNE, B.A., *Lecturer on Mediaeval History*

The instruction of graduates, independently of the courses of study provided in the professional schools, had been attempted in an informal way before 1847, when such courses were definitely arranged, and the Department of Philosophy and the Arts constituted, with this object in view. The degree of Doctor of Philosophy was first offered in 1860, that of Civil Engineer in 1860, that of Dynamical or Mechanical Engineer in 1873, and that of Master of Arts (previously given without evidence of study) in 1874.

Graduates of this and other Colleges or Universities, and (in exceptional cases, by special permission) other persons of liberal education, who are not less than eighteen years old, are received as students for longer or shorter periods, with or without reference to the attainment of a degree.

An Executive Committee has a general oversight of the students in this Department. The Committee this year is composed of Professors WHITNEY, NEWTON, BRUSH, WHEELER, and HADLEY. They receive the names of applicants for instruction, and judge and approve the courses of study proposed; and information may be obtained from them as to conditions, terms, etc. Students may also make special arrangements with any instructor according to their mutual convenience.

Instruction is given partly by lectures, partly by recitations and by oral and written discussions, partly by directing courses of reading, and partly by work in the laboratories and with instruments. There are also various voluntary associations, in which instructors and students meet together periodically for the reading of papers, oral discussions, etc.; such are, the Classical and Philological Society, the Mathematical Club, the Political Science Club, the Philosophical Club, the Semitic Club, etc.

The terms and vacations correspond with those in the Undergraduate Departments. (See Calendar, p. 6.)

The fee for instruction is generally one hundred dollars; but may be more, or less, according to the course pursued and the amount of instruction received. Students have the free use of the Library of the University (including the

Linonian and Brothers Library); and are admitted to the College Reading Room on payment of an annual fee of two dollars.

THE DEGREE OF DOCTOR OF PHILOSOPHY is conferred upon those who, after having taken a Bachelor's degree (implying a course of undergraduate study equivalent to that pursued in the Academical Department), and having studied in this Department for not less than two years, shall have passed a satisfactory final examination and presented a thesis giving evidence of high attainment in the branches of knowledge pursued. It is not given, upon examination, to those whose studies are pursued elsewhere. The requirements for it will in some cases exact of the student more than two years of labor; especially when the course of undergraduate study has been less than four years. A good knowledge of Latin, German, and French, will be required in all cases, unless, for some very exceptional reason, the candidate be excused by the Faculty. The graduating fee is ten dollars.

THE DEGREE OF MASTER OF ARTS is conferred on Bachelors of Arts of Yale College or of other Colleges, of two years' standing or upwards, who have given to the Faculty of the Academical Department evidence of having made satisfactory progress in liberal studies after receiving their first degree. Such evidence may be furnished by one year's systematic study (not professional) in New Haven, under the direction of the Academical Faculty, followed by an examination. Graduates of other Colleges can obtain the degree only by residence as thus described.

Such Bachelors of Arts of *this College* as may not choose to reside at the College for the prosecution of study may show at any time, not less than three years after graduation, by their printed essays, or by submitting to special exam-

inations, that they have spent a year in liberal (and non-professional) study, and are worthy of recommendation for this degree.

A committee of the Faculty is appointed (consisting for the present year, of Professors NEWTON and WHEELER), to whom candidates for this degree must submit their proposed courses of study for approval by the first of November in each year; and the evidence of a year's study must be submitted to the same committee by the first of June.

In the case of resident students, the charge for instruction will usually be one hundred dollars, with a fee of ten dollars for the degree. In the case of non-residents, the fee for examinations and the degree will usually be twenty-five dollars.

THE DEGREES OF CIVIL ENGINEER AND MECHANICAL (OR DYNAMICAL) ENGINEER are conferred on Bachelors of Philosophy who have taken the first degree in Engineering study, and who pursue a higher course under the direction of the Governing Board of the Sheffield Scientific School, for at least two years, sustaining a final examination, and giving evidence of their ability to design important constructions, and to make the requisite drawings and calculations. The fee for graduation is five dollars.

The Courses of Instruction may be grouped as follows:

I. INTELLECTUAL PHILOSOPHY; ETHICS

Ex-President PORTER:—*Philosophy; Ethics*. The course will include special topics in the theory of knowledge, and the relations of Science to Theism; the theory of Ethics, and the relations of Ethical to Political Science.

Professor LADD will lecture on Psychology, the Theory of Cognition, Metaphysics, and the Philosophy of Religion. This course occupies two years. The subjects for 1887-88 are taken from the Encyclopaedia of Philosophy and the Philosophy of Religion.

He will also conduct another course, consisting of lectures, text-book exercises, discussions, papers by the pupils, etc., two hours per week. This course for 1887-88 is based upon the study of Schopenhauer's "The World as Will and Idea."

During the year of 1887-88 he will also read, one hour a week, with a class of advanced students, Kant's Critique of Pure Reason—the principal aim of the study being to interpret the author by a critical comparison of the two editions of his work.

The undergraduate courses in Physiological Psychology and the History of Philosophy (see p. 35) are also open to graduates; and the former is especially recommended to those who wish to make a thorough study of Philosophy.

Professor HARRIS:—*The Philosophical Basis of Theism and The Self-Revelation of God*. This course of instruction for the Junior Class in the Divinity School is open to graduate students on applying to the Professor.

Professor RUSSELL will allow graduate students to attend his exercises and lectures on the Philosophy of Religion with the graduate class in the Divinity School.

II. POLITICAL AND SOCIAL SCIENCE; LAW; HISTORY

Professor SUMNER:—1. *Finance and Politics in the History of the United States*. This course deals with the history of the United States as a field for the study of currency, banking, tariff, public finance, the history of political economy, the art of politics, the science and art of government, the development of American institutions, American constitutional law, the art of legislation, industrial history, the history of public opinion, and the social development connected with the growth of the nation. It occupies two years, two hours per week. In 1887-88 the first part, down to 1830, will be given. It is assumed that those who attend this course have a good knowledge of the civil history of the United States.

2. *The Industrial Organization of Modern Society*; two hours a week, through the year. This course is given every other year, alternately with course 3. It will not be given in 1887-88.

3. *Anthropology*; two hours a week, through the year. This course takes up the study of anthropology, sociology, archaeology, ethnology, and human palaeontology, in a very elementary manner. The ground to be covered is that embraced in Rauber's *Urgeschichte des Menschen*. The works of De Mortillet, Letourneau, and Topinard will be used as text-books, with references to those of Lubbock, Tylor, Spencer, Nadaillac, and to the publications of the American Bureau of Ethnology.

4. *The Logic and Method of the Social Sciences*. Six lectures in the first term on fallacies of method in the social sciences; the existing controversies about method; the use and misuse of history and statistics; the requirements now made of statistics and chance of their satisfaction; what history is and what its functions can be; discrimination between the categories which are historical and those which are not; the field of analysis and interpretation; the use and abuse of deduction.

Candidates for a degree are required to pursue, and to be examined on, a course of reading in the leading text-books of Political Economy which will be prescribed by Professor Sumner for each student upon consultation.

Professor FARNAM:—*The Principles of Public Finance*; one hour a week, through the year. A systematic survey of the means by which the expenditures of government are met, regard being had both to the economic principles involved and to the fiscal systems of modern states. Leading topics are: the budget, taxation (national and local), public debts, and state banks considered as aids to public credit.

Professor HADLEY:—1. *Railroad Administration*; two hours a week, during the first term. This course deals with railroad expenditures and receipts, the methods of railroad accounting, railroad rates and discriminations and their effects upon the community, the various methods of legislative control and their results.

2. *Industrial Legislation*; one hour a week, during the second term. This course deals, in alternate years, with:

(a.) The grounds and limits of state interference with industry, the history of the right of private property, the arguments concerning private ownership of land and capital and concerning freedom of contracts.

(b.) The specific legislation of different states and countries concerning corporations and other associations, factories, transportation, and concerning public safety and health in their industrial bearings.

Section b was given in the spring of 1887. Section a will be given in 1888. Each part is so far independent of the other that it makes little difference in what order they are taken.

Mr. RAYNOLDS:—1. *Roman Law*; one hour a week, during the second term. An elementary course in the History and Institutes of Roman Law and its relation to modern Codes.

2. *Comparative Constitutional Law*; two hours a week, during the second term. A comparative study of the modern constitutional state; especially with regard to the principal forms of constitutional government, the constitution, power and relations of the govern-

mental departments, and the laws and practices of elections in the various states.

Mr. WHITE:—*Local Government in the United States*; one hour a week, during the second term. This course treats of the development and present status of the institutions of local government in this country. The legal functions of American cities, villages, counties and towns, and other municipal corporations and quasi-corporations, will be discussed and compared with the functions of the local governments of England, Germany, and France. Especial attention will be given to the practical problems of city government, and the attempts to solve them, with the results thus far attained.

Professor FISHER:—1. *Ecclesiastical History*; three hours a week, through the year. Among the topics treated are: the Establishment and Spread of Christianity, the Relations of the Church to Civil Society in the Middle Ages, the Protestant Reformation and Systems of Polity, the History of Christian Worship and Christian Doctrine.

2. *Introduction to Historical Studies*; one hour a week, during the first term. This course embraces, as special topics, the nature of historical evidence, the sources of history, its principal epochs and eras, together with comments on historical authors, ancient and modern.

Professor BREWER:—*Physical Geography in its relations to Political History*; one hour a week, during the first term. A course of about ten lectures discussing the following topics: 1. The physical relations of man to the region he inhabits; 2. The physical conditions and natural productions necessary for civilization; 3. Natural aids to the defence and protection of communities; 4. Natural facilities for commerce; 5. The effects of natural conditions now modified by modern inventions.

Professor WHEELER:—*English History*; two hours a week, through the year. This course covers two years. The object is to trace carefully the long, continuous, and, on the whole, orderly development of English political institutions. Special topics are assigned, and the best sources of information indicated. Particular attention is devoted to the early and mediæval periods, and for these the work of Bishop Stubbs will be the leading authority. This year (1887-88) the first part of the course will be given.

Professor DEXTER:—*American History*. The instructor will meet students once or twice a week for discussions and reports on selected themes. He will also mark out and supervise courses of reading, and will direct students in the investigation of special topics and in the preparation of theses.

Mr. BOURNE:—*A View of Trade and Industry in Europe in the Middle Ages*; one hour a week, through the year. Beginning in the later days of the Roman Empire, after a hasty review of the social conditions of the time, the lecturer will discuss the development of the

various forms of industry and trade in vogue from time to time during the Middle Ages. Special attention will be given to the Levant trade, Hanseatic League, agriculture, the guilds, money, and restrictions on trade.

Professor PLATT:—*Jurisprudence*; Analysis of the general conceptions common to the legal systems of modern progressive communities.

Professor ROBINSON:—*History of Real Property*; *Canon Law*; *Parliamentary Law*.

Professor BALDWIN:—*Conflict of Laws*; *Comparative Jurisprudence*; one hour a week, through the year. The French Codes and Wharton's Private International Law are made the basis of this course; some topics of Roman Law are also taken up.

[NOTE.—The student may also avail himself, by private arrangement with the several instructors, of the opportunities furnished in the LAW SCHOOL for studies in International Law, American Constitutional Law, etc.]

III. PHILOLOGICAL SCIENCE; LITERATURE

Professor WHITNEY:—*the General Principles of Linguistic Science*; *the Comparative Philology of the Indo-European Languages*; *the Sanskrit Language*.

Professor W. R. HARPER and Mr. R. F. HARPER: *Semitic Languages and Philology*. The following courses are offered:—

I. *Hebrew*; (2) *Genesis* i-viii and, in connection with these chapters, the grammatical principles of the language; translation of Deuteronomy and Pentateuchal poetry,—two hours a week throughout the year. (2.) Critical Examination of the principal Messianic Prophecies, two hours a week throughout the year. (3) *Sight-reading* in *Samuel*, *Kings*, *Jeremiah*, etc., three hours a week throughout the year. (4) Critical study of *Proverbs*, two hours a week, first term. (5) Textual study of *Micah*, two hours a week, second term. (6) *Pentateuchal Criticism*, three hours a week, second term. (7) *Hebrew Syntax*, one hour a week, second term.

II. *Assyrian and Babylonian*; (1) The transliterated and Cuneiform texts in Lyon's Assyrian Manual, and, in connection with these, the grammatical principles of the language, two hours a week, first term. (2) Historical Texts: (a) *Tiglath Pileser*, two hours, first term; (b) *Sennacherib*, two hours, second term; (c) *Ashurnasirpal*, two hours, second term; (d) *Esarhaddon*, one hour, second term. (3) Syllabaries in ii and v, Rawlinson, one hour, second term. (4) Interpretation of *New Babylonian* texts, one hour, second term.

III. *Arabic*; (1) Arabic translation of *Genesis* i-iv, selections from Kuran and the grammatical principles of the language as given in

Lansing's Arabic Manual, two hours, first term. (2) Earlier Suras of the Kuran, with a study of the rise of Mohammedanism, two hours, second term. (3) Later Suras of the Kuran, study of Arabic Syntax (Wright) with special relation to Hebrew Syntax, two hours, first term. (4) Selections from the Arabic Poets and Historians (Arnold's Chrestomathy), two hours, second term.

IV. *Aramaic*; two courses, each one hour a week. (1) Biblical and Targumic Aramaic, with Brown's Arabic Manual. (2) Syriac, with Nestle's Grammatica Syriaca.

V. *Ethiopic*. Praetorius' Ethiopische Grammatik and Dillmann's Chrestomathia Ethiopica, one hour, second term.
Professor SEYMOUR:—*Greek*. In addition to the elective courses offered in connection with the ACADEMICAL DEPARTMENT (see page 42), the following courses are provided:

I. *Greek Orators*: three hours a week through the year.

II. Critical interpretation of *Homer's Odyssey*. Two hours a week through the first term.

III. *Aeschylus*: two hours a week through the second term.

Topics for special investigation will be assigned to the graduate students in courses on page 42, as well as to those in courses II and III.

Professor PECK:—*Latin*. The elective courses open to graduate students in connection with undergraduates are given above (page 41). The instructor will also, two hours weekly, interpret the Satires of Horace and Persius during the first term, and the Epistles of Pliny during the second term. Through the second term he will also conduct weekly exercises in Latin Composition. In connection with these courses special topics will be assigned for investigation and discussion, as the Latinity of the separate authors and periods, the rationale of constructions, historical syntax, pronunciation, etymology, etc.

Mr. VANNAME:—*Elements of the Japanese Language*.

Professor BEERS:—*Anglo-Saxon; Early English*. This course includes readings in Sweet's Anglo-Saxon Reader, Skeat's edition of the Chronicles, the first part of Beowulf (Harrison's edition), and selections from Mätzner's Altenglische Sprachproben. Reference is made to Sievers' Grammar, Skeat's Etymological Dictionary, tenBrink's History of English Literature, and Earle's Handbook of Anglo-Saxon Literature.

Professor KNAPP:—*Spanish; Italian; Old French and Provençal (including Catalan, ancient and modern)*.

Assistant Professor RIPLEY:—*German*. Of the Elective courses offered to undergraduates (page 38), Nos. 25 to 29 are open to graduate students.

IV. MATHEMATICS

Professor NEWTON:—*Analytical Statics; The Dynamics of a Particle, and of a System of Particles.*

The Mathematical Theories of Shooting Stars and Meteors, and the Treatment of Observations of them; The Lunar and Planetary Theories. Higher Geometry.

Professor CLARK:—*Determinants, with applications. Theory of Curves and Surfaces.*

Definite Integrals; Differential Equations.

The Kinematics of a Rigid Body.

Professor GIBBS:—*Vector Analysis*, with especial reference to physical applications.

Theory of the Potential, and allied topics.

Mathematical Theory of Electricity and Magnetism.

Electro-magnetic Theory of Light. Propagation of the electrical disturbance in isotropic and aeolotropic media. Reflection at a surface where two such media meet. Dispersion of colors.

A short course on *The a priori Deduction of Thermodynamic Principles from the Theory of Probabilities.*

Graduates will also in many cases find it profitable to take some of the mathematical courses offered to the undergraduates. (Cf. p. 45.)

V. PHYSICS; CHEMISTRY

Professor LOOMIS:—*Meteorology*, with special reference to the laws of storms.

Professor A. W. WRIGHT:—*Experimental Physics*. Direction of practical work in the Sloane Physical Laboratory, with instruction in the principles and methods of physical investigation, the processes and instruments of measurement, and the methods of computing and reducing results of observations. Special attention is paid to practical measurements in electricity and magnetism.

The student is expected to make original investigations an important part of his work, and has the free use of the laboratory facilities for carrying them on.

Professor HASTINGS:—A course in *Physics* will consist of laboratory work, supplemented by lectures on the theory of observation, with the method of least squares, and, each year, some special department of physics will be selected for detailed treatment in a course of lectures and conferences. During 1886-87, lectures on the theory of electricity and electrical instruments occupied six months. The use of the laboratory is at the command of the student at all times.

Professor JOHNSON:—*Organic Chemistry*: Paraffines and their derivations, two hours weekly throughout the year; Aromatic Compounds,

two hours a week during the first term. Systematic review of the various classes of carbon compounds, with study of substances that illustrate current chemical doctrines or are important in nature and in the arts. Experimental demonstrations.

Mr. H. L. WELLS:—*Analytical Chemistry*; including a systematic course in Qualitative Analysis, a systematic course in Quantitative Analysis, and such special branches of Quantitative Analysis as are applied to Mineralogy and various departments of Metallurgy.

Instruction in analytical processes and chemical principles involved in them, is given to each student separately in the laboratory. Laboratories are open seven hours daily (except Saturdays).

Professor CHITTENDEN:—*Physiological Chemistry*. Graduate students having sufficient knowledge of analytical chemistry and physiology are received into the laboratory at the beginning of the academic year, where they can pursue a course in physiological chemistry and toxicology, extending throughout the entire year. The course necessitates, on an average, four hours of laboratory work per day, and attendance on lectures and recitations three or four times per week. Opportunities are also afforded for the carrying on of original investigations, either in physiological chemistry or experimental toxicology, and to students qualified for such work the laboratory is open during the entire day.

Students desirous of studying any special subject in physiological chemistry and having but a limited amount of time are also received, provided they are qualified by previous work to pursue the study advantageously.

VI. GEOLOGY; NATURAL HISTORY

Professor J. D. DANA:—*Geology*. The subjects taught in the course are Physiographic and Lithological Geology, with Historical and Dynamical Geology in alternate years; and for an advanced elective, the reading and discussion of original memoirs and other publications in all these departments, together with work in the field. For practical illustrations of the various subjects, the instruction is supplemented by excursions to regions, severally, of sedimentary, metamorphic, and igneous rocks; of variously flexed, jointed, altered and degraded rocks; of seashore action and its results; of glacial, fluvial and other Quaternary phenomena; excellent localities for the study of these various subjects are found in the vicinity of New Haven, but excursions extend also to neighboring parts of New England and New York.

Professors BRUSH and E. S. DANA, and Mr. S. L. PENFIELD:—*Mineralogy*, in its different branches: (1) Descriptive Mineralogy: including the study of mineral species individually and in their relations to each other in composition, association, and so on. (2) Crystallography and

Optical Mineralogy: the study of the mathematical relations of the forms of crystals, the measurement of crystals on the goniometer and their practical determination; also, the study of the optical characters of the different groups of crystals, the determination of the position of the axes of light-elasticity, measurement of indices of refraction, of the optic axial angles, etc. (3) Determinative Mineralogy and Blowpipe Analysis: the study of the use of the blowpipe and its application to the determination of a mineral species.

Microscopical Petrography: the methods of research and the use of the microscope, the practical study of rocks in thin sections and in hand specimens.

Professor EATON:—*Botany*. At present there are no facilities for the profounder study of Vegetable Physiology. Structural Botany is taught in a practical way to the extent of preparing and examining microscopic specimens of the various tissues and elements found in phaenogams, and in cryptogams exclusive of fungi, including the use of the ordinary solvents, dyes, reagents, and mounting media used in this study. For the study of the North American Flora generally, and the higher orders of cryptogams, with regard to their identification and geographical distribution, the facilities are excellent, and, under proper restrictions, students may have the privilege of consulting the very extensive private collections of the professor in charge.

Professor VERRILL:—*Zoology*. The course includes laboratory practice, recitations, readings, and lectures. The laboratory work is varied according to circumstances, in order to accommodate, so far as possible, those students who may wish to pursue special branches. A large part of the time is usually devoted to Comparative Anatomy, Morphology, and Systematic Zoology. Ample collections in the Peabody Museum, representing all classes of animals, are available for instruction, while the proximity to the sea renders it easy to provide fresh or living examples of most classes of marine animals for study and dissection.

All students in this course should be familiar with the use of the microscope. A knowledge of drawing sufficient to enable the student to make sketches of the objects studied is very desirable.

Professor S. I. SMITH:—*Elementary Anatomy and Histology*; two to four half-days a week during the first term. Laboratory instruction will be given with special reference to preparation for medical studies, or as a preparation for further biological study and investigation. The instruction will be adapted as far as possible to the special wants of the individual student.

During the last part of the second term, graduate or special students who desire to do so may attend the short course of lectures on embryology, with special reference to human morphology given to undergraduates in the course in biology (see above, p. 77).

VII. APPLIED SCIENCE

Professor LYMAN:—*Practical Astronomy*. Instruction, especially adapted to candidates for the degree of Civil Engineer, is given in practical Astronomy applied to Geodesy, using as guides the treatises of Loomis and Doolittle. The practical instruction embraces the use

(1) Of the Theodolite or Surveyor's Transit for determining time, latitude, and azimuth;

(2) Of the Sextant and Reflecting Circle for time, latitude, and longitude;

(3) Of the combined Portable Transit instrument and Zenith Telescope for time, latitude by Talcott's and other methods, longitude by moon culminations, etc. The instrument used is of three-feet focus and 2.6 inches aperture, with fine alidade level and position filar micrometer.

(4) The Meridian Circle (with five-foot telescope) is also available for transit and other observations, as well as the Clark Equatorial of nine inches aperture, and a five-foot portable telescope by Clark, for occultations and other work.

Special students in Practical Astronomy are permitted to take up such branches of the subject, with the use of any of the above-mentioned instruments, as may best suit their purposes.

The time devoted to the subject will vary with the taste and purpose of each student and the time at his disposal. But for the degree of Civil Engineer, a good familiarity with the instruments named in 1, 2, and 3, as well as with the corresponding computations and practical problems, is required.

Professor JOHNSON:—*Agricultural Chemistry*; two hours a week, through the year. This course includes the following topics: the Atmosphere, Water and Soil in their various relations to Vegetation; Tillage; Fertilizers; Rotation of Crops; Irrigation.

Professor C. B. RICHARDS:—*Mechanical Engineering*. This course, arranged for candidates for the degree of Mechanical (or Dynamical) Engineer, is also open to Special Graduate Students, who will be allowed in certain cases to take selected parts. The leading topics are:

(1) *Applied Mechanics*; including graphical methods in applied kinematics, and in the investigation of mechanisms working with friction; graphical determinations of the accelerations of the moving parts of machines; the strength of materials as effecting the proportions of machine elements; the applications of the principles of hydraulics to the construction and working of turbines and pumps.

(2) *Thermo-dynamics*; applications to the compound steam engine, air compressors and compressed air motors, engines worked by volatile vapors, refrigerating machines, the warming and ventilation of buildings.

(3) *Machine Design*; in this course the student is engaged in practical exercises under the guidance of the professor in charge, investigating machinery, and designing and making working drawings, specifications, and estimates for machines and manufacturing plant. In addition to the study of machines in general, either of the following subjects will at the option of the student receive particular attention; (a) Marine Engineering; (b) Railway machinery; (c) Pumping machinery and plant; (d) Machinery and plant for manufacturing. The student is required to make complete drawings, from new designs, of at least one important piece of machinery under one of these subjects. A compound marine engine and boilers, a locomotive, a turbine, driving centrifugal pumps, a blowing engine for an iron furnace, are examples.

Candidates for the degree of Mechanical Engineer are required to take also a selected course in Mathematics, to sustain a final examination, and to present a satisfactory thesis on a subject approved by the professor in charge of the course.

A course in applied electricity, and, when the facilities in the physical laboratory permit, a course of laboratory work under the superintendence of the professor in charge; also, lectures on Industrial Legislation and Finance, and lectures on the higher Mathematics, are open to all students in this course.

Professor DUBOIS:—*Civil Engineering*. This course offers instruction for advanced graduate students, as well as for those students who may be regular candidates for the degree of Civil Engineer. It embraces the following topics:

(1) *Mechanics applied to Engineering*; including a course in Hydraulics, with reference to the various problems which arise in connection with water-supply, water-power or irrigation; the efflux of water, flow through orifices and mouthpieces and over weirs, simple and submerged; questions of overflow and land damage; the effect of friction, contraction, enlargement, bends, valves, etc.; measurement of the discharge of pipes, rivers and streams; the theory and design of water-motors; a course in Thermo-dynamics and its practical application to hot-air, gas and steam engines, and the heating and ventilation of buildings.

(2) *Surveys and Geodesy*; including methods of observation, base measurements, triangulation field work, theory of least squares, adjustment of observations, calculation of the triangulation, and computation of geodetic latitudes, longitudes, and azimuths.

(3) *Construction and Design*; including the strength and properties of materials, construction and design of bridges, roofs, foundations, retaining walls, dams and embankments, masonry, arches, sewerage and drainage, improvement of rivers and harbors, specifications and contracts, and the preparation of designs and working drawings.

Candidates for the degree of Civil Engineer are required to take, in addition, a selected course in Mathematics, Practical Astronomy, and when the facilities in the physical laboratory permit, a course of laboratory work, under the superintendence of the professors in charge. They are also required to sustain a final examination, and to present a satisfactory thesis accompanied by appropriate designs, upon a subject approved by the professor in charge of the course.

To special students, not candidates for the degree of Civil Engineer, a selection of special topics is allowed. The lectures of the Department upon Railroad Administration, Industrial Legislation and Finance, and upon the higher Mathematics are open to all the students in this course.

VIII. FINE ARTS

For the instruction offered in the Fine Arts, see page 109.

SCHOOL OF THE FINE ARTS

COUNCIL

The Council of the School consists of the President of the University, the permanent officers of the School, and four members by election: Donald G. Mitchell, LL.D., Edward E. Salisbury, LL.D., J. Davenport Wheeler, Ph.B., and William W. Farnam, M.A.

FACULTY

Rev. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT
JOHN F. WEIR, N.A., M.A., *Director, and Professor of Painting*
Rev. JAMES M. HOPPIN, D.D., *Professor of the History of Art*
JOHN H. NIEMEYER, M.A., *Professor of Drawing*

FREDERIC R. HONEY, Ph.B., *Instructor in Perspective*
JOHN P. C. FOSTER, M.D., *Instructor in Anatomy*
———, *Instructor in Architecture*

BELA L. PRATT, *Librarian*

ORGANIZATION AND COURSE OF STUDY

The School aims to provide thorough technical instruction in the Arts of Design, viz: Drawing, Painting, Sculpture, Architecture, and Copperplate Etching; and to afford a knowledge of such branches of learning as relate to the Philosophy, History, and Criticism of Art. As a professional School of Art it aims to furnish a thorough course of study in the practice of the studios; and as a department of the University it aims to provide instruction in Art as a constituent part of the scheme of general culture. These departments, of Practice and Criticism, may be regarded as distinct or correlative.

THE TECHNICAL COURSE

The technical instruction, for professional students, is based upon methods well adapted to discipline the æsthetic faculties and ground the pupil in the elements, or fundamental principles, which constitute the grammar of Art, as a foundation for all forms of special application. This instruction is arranged as follows:

IN DRAWING, the work is distributed over a three years' course. During the first year the practice of the studio is confined to drawing from the "Antique"—from plaster casts; during the second year, to drawing from casts and the living-model; and during the third year, to drawing from the living-model—nude and draped. The classes under the supervision of the Instructor in this department are the antique portrait, nude-model, sketching, and composition classes; and until the Chairs of Sculpture and Copper-plate Etching are filled, these branches are included under the same supervision. Students showing the requisite proficiency in any class, will be advanced to the work of the second or third year according to individual ability. Instruction in this department precedes all special courses in the various branches of Art; no pupil is allowed to enter any of the advanced classes without this necessary qualification in that degree of proficiency which is deemed essential as a preliminary ground for such studies. Lectures on the principles of decoration, as applied in the various branches of Decorative Art, are included in this department; and a special course in "free-hand drawing" is arranged to meet the requirements of students in the Sheffield Scientific School, extending through the first term of the year.

IN ANATOMY, instruction is given in the form of lectures, and by drawings made from specimens and casts. The lectures are divided into two courses, for elementary and advanced classes. Each course consists of twenty lectures, one lecture a week to each class, continuing through the Winter and Spring Terms. The elementary course is devoted to the study of such portions of the human body as manifestly affect the external forms, the aim being to familiarize the pupil with the characteristics of those parts, independently of their combined action in modifying the external forms. Drawings of these parts are made by the pupils, in connection with the subjects discussed by the lecturer. The advanced course includes the whole structure of the human form in its plastic anatomy and mechanism. The skeleton and muscular system are viewed as a whole, and the modification of the external forms studied in action and repose. The subjects of proportion, equilibrium and motion, and expression, are studied, and original drawings

required in illustration, made from life, or from Greek sculptures, by reducing the same to their anatomical structure by the imagined removal of the integument.

IN PERSPECTIVE, the instruction is likewise given in the form of lectures, divided into two courses of twenty lectures each, for an elementary and an advanced class, illustrated by examples drawn on the black-board, illustrating the principles under discussion. The lectures are supplemented by practical exercises. The student is required to work out examples in the interim between the lectures. The elementary course includes the principles of plane geometry underlying perspective,—simple projections, or plan and elevation drawings. Objects are treated with reference to their true dimensions, as preliminary to their correct representation on a flat surface, as seen in perspective, at various distances, and from different points of view. The advanced course includes the study of shadows and reflections, and the application of the general principles of perspective to interior and exterior views. The pupil is required to work out problems in illustration of all the principles involved in linear perspective in its application to the various branches of art.

IN PAINTING, the work is divided into an elementary and an advanced course of study. The first studies are devoted to the acquisition of a knowledge of the elements of technical practice, by painting from still-life. When the pupil has acquired some knowledge of the means in representing objects in color, as to the values and relations, the remainder of the course is given to studies of the living-model, in portrait, figure, and composition. This is continued while the pupil remains in the School. The course in painting implies, on the part of the pupil, a requisite knowledge of drawing, and drawing from the living-model is continued throughout the course in connection with the work in color. The practice of the studio is supplemented by illustrated lectures on Color, Chiaroscuro, Composition, and such other special topics as relate to the principles and means of Art, or are comprehended in its theory and practice.

IN MODELING, a course is provided, including the anatomical lectures, and drawing. The work in this branch of instruction consists in first modeling in clay, from casts of Greek fragments, the head and other extremities of the human form, and then the whole figure. When the student has sufficient command of the method and means, the rest of the course is devoted to modeling from the living subject.

IN ARCHITECTURE, the course includes drawing, as provided in that special department in its elementary instruction, as well as the course in isometric projection and perspective. Under the instructor in Architecture studies are made from notable examples of the various orders

and styles, in chronological order, with original projects in illustration to be worked out by the student. The means and methods of preparing plans, elevations, sectional and working drawings, and perspective views in india-ink and water-color, are comprehended in the elementary part of this course. Arrangements may be made with other departments of the University, by which students in Architecture can obtain the requisite instruction in mathematical subjects having a direct bearing on this art, including plane geometry, stone-cutting, the nature and strength of materials, and the principles of construction and engineering.

Under the instructor in Architecture the course includes a general and comprehensive view of the historic development of the various architectures, with a comparative analysis of the same with respect to their principles of construction and decoration.

IN COPPER-PLATE ETCHING, a course is provided, and a room set apart for this special study, containing all the necessary appliances of this art, including a press. The instruction in this branch of art is, for the present, in charge of the Professor of Drawing.

COURSE IN THE HISTORY AND CRITICISM OF ART

The instruction in this department includes courses of lectures by the various Instructors of the School, arranged to include both professional students in regular course, and classes from other departments of the University where it is recognized as an "elective" study.

IN THE HISTORY OF ART, the course is as follows: 1. *The Origin of the Art*—Hegel, Lotze, Ruskin; 2. *Egyptian Art*—Perrot and Chipiez, "Histoire de l'Art de l'Antiquité," etc.; 3. *Oriental Art*, with special reference to its influence on Greek Art—Schnaase, Fergusson, Perrot and Chipiez, etc.; 4. *Greek Art*, Principles of Greek Art; Pelasgic construction, and the three orders of Greek Architecture; Greek Sculpture, including the Archaic, Phidian, and Naturalistic periods, and the Graeco-Roman; with recent researches at Olympia and other places; *Greek Painting*, Ceramic, Mosaic, and Mural—Winckelmann, Lessing, Outfried Müller, J. Overbeck, Schnaase, Friedrichs, Charles Blanc, and Woltmann; 5. *Roman Art*—Fergusson, Dennis, Emil Braun, etc.; 6. *Beginnings of Christian Art*, classic sources and types; Religious Art; early Christian Painting and Iconography; early Christian Architecture—Lindsay, Fergusson, etc.; 7. *Byzantine Art*, Oriental, Christian, and Saracenic forms—Fergusson, Ruskin, etc.; 8. *Mediaeval Art*, Romanesque and Lombardic; Tuscan, Southern and Northern Gothic—Viollet-Le-Duc, Ruskin, Fergusson, etc.; 9. *The Renaissance*; rise of the Florentine School, and the Schools of Sienna, Umbria, Lombardy, Rome, and Venice

—Vasari, Lanzi, Kugler, Ruskin, Crowe and Cavalcaselle, Symonds, etc.; 10. *Modern Art*—Schools of Spain, Holland, Germany, France, and England; the Pre-Raphaelite, Romantic, and Impressionist movements; Art in America. The lectures are illustrated by means of the hydro-oxygen lantern.

IN THE PRINCIPLES AND MEANS OF ART, a course of twelve lectures is provided, fully illustrated, embracing the subjects of Line, Chiaroscuro, Color, Composition, and Expression,—following the path of the artist in his work. A course of twelve lectures discussing the technical methods of the Painter, the Sculptor, the Architect, and the Engraver, including an historic account of the technical development of these arts, is also provided.

The regular prescribed course of study, for professional students, covers a period of three years, but pupils are encouraged to remain in the School and pursue advanced studies after the expiration of the prescribed term. The fees are at the rate of twelve dollars per month, with an annual fee of five dollars. No pupil is received for a term of less than three months. The tuition fee for a fourth year's attendance is one-half the usual rate; pupils remaining for a longer period are classed as "honorary students"; as such they are exempt from the payment of a tuition fee, but are charged an annual fee of ten dollars. The School is open to both sexes; no pupil is received under fifteen years of age. All applications for admission should be made through the Director. The School opens on the 1st of October, and closes on the 1st of June. At the end of the School-year an exhibition of the work of the various classes of pupils is held, continuing open through the summer months. The closing exercises are held on the 1st of June.

CERTIFICATES are awarded to pupils remaining in the School through the regular course of three years; and a DIPLOMA is awarded, on the ground of merit alone, to such students as fulfill all the requirements of a prescribed course of advanced studies in the several departments of instruction.

The "ETHEL CHILDE WALKER PRIZE," the income from a foundation of two hundred dollars, is awarded annually, under certain restrictions, to the most deserving pupil in the professional department.

THE ART LIBRARY, containing a collection of technical hand-books, current art-periodicals, and portfolios of engravings, is open, during specified hours, for the use of students. The pupils of the School are entitled to the use of the University Library, and to such other privileges, under the usual restrictions, as are granted to students in the other Departments.

Season-tickets, at fifty cents each, admitting the holder to the Galleries and Exhibitions throughout the year, are furnished to the undergraduates of all Departments of the University.

THE COLLECTIONS embrace "The Jarves Gallery of Italian Art," numbering one hundred and twenty-two paintings dating from the 11th to the 17th centuries; the "Trumbull Gallery" of historical portraits and other works, numbering fifty-four pictures; a collection of contemporaneous art, numbering about one hundred paintings; a collection of about one hundred and fifty casts and marbles, representative of the various periods of Greek and Renaissance Art; a collection of old Dutch and Flemish paintings, numbering one hundred and sixty-five original works, loaned by Mr. Louis R. Ehrich; a valuable collection of Chinese porcelains and bronzes, loaned by Mr. F. W. Williams; and a series of very valuable Belgian wood-carvings of the 16th century, deposited in the School by Mrs. A. C. Alden. The Collections are open daily for the use of students; and to the public, during the winter, from 1 to 5 P. M., and during the summer from 9 A. M. to 6 P. M.

The Art Building was erected in 1864, by Mr. Augustus R. Street (Yale College 1812), of New Haven, at a cost of about \$220,000. The School was partially endowed, to the extent of \$81,500, by Mrs. Street, who also made other gifts in aid of its objects.

DEPARTMENT OF THEOLOGY

(YALE DIVINITY SCHOOL)

FACULTY

- REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT
 REV. GEORGE E. DAY, D.D., *Professor of the Hebrew Language and Literature and Biblical Theology (Old Testament)*
 REV. SAMUEL HARRIS, D.D., LL.D., *Professor of Systematic Theology*
 REV. GEORGE P. FISHER, D.D., LL.D., *Professor of Ecclesiastical History*
 REV. LEWIS O. BRASTOW, D.D., *Professor of Homiletics and the Pastoral Charge*
 REV. JOHN E. RUSSELL, M.A., B.D., *Professor of Biblical Theology (New Testament)*
 REV. GEORGE B. STEVENS, PH.D., D.D., *Professor of New Testament Criticism and Interpretation*

- MARK BAILEY, M.A., *Instructor in Elocution*
 GOTTLIEB HENESS, M.A., *Instructor in German*
 WILLIAM R. HARPER, PH.D. (*Professor of the Semitic Languages*), *Instructor in Hebrew*

SPECIAL LECTURERS

- REV. HENRY CLAY TRUMBULL, D.D., LYMAN BEECHER LECTURER, *on the Sunday School; its Nature, Mission, Methods, and Auxiliaries*
 REV. JOHN HALL, D.D., LL.D., *subject to be announced*
 REV. WILLIAM E. GRIFFIS, D.D., *on The New Japan*
 PROF. LEONARD J. SANFORD, M.D. *on the Preservation of Health*

THE CONDITIONS OF ADMISSION to this Department are membership in some evangelical church, or other satisfactory evidence of Christian character, and a liberal education at some College or University, or, in exceptional cases, an equivalent preparation for theological studies. Students of every Christian denomination, in case they are possessed of these qualifications, are admitted.

It is expected that every student will be promptly on the ground at the beginning of the session. Rooms are assigned in the order of application, but no room is reserved for any applicant who neglects to appear, beyond one week after the opening of the term.

THE REGULAR COURSE OF INSTRUCTION occupies three years, and is arranged in the following order :

JUNIOR YEAR :

Professor DAY will lecture once a week on the Encyclopedia and Literature of Theology, including a survey of the various branches of Biblical Literature, and an account, more or less extended, of the prominent writers and their works in the several departments of theological science. He will also read with the class, in the latter part of the year, portions of Delitzsch's Hebrew translation of the New Testament, as compared with the original Greek and the English and Continental Revised Versions.

Professor HARPER will give instruction in the grammatical principles of the Hebrew language, in connection with the first eight chapters of Genesis; translation of these chapters from English into Hebrew and the acquisition of a vocabulary in the ground covered in his *Introductory Hebrew Method*, with a survey of the Pentateuchal criticism; rapid reading of Exodus i-xx, and Deuteronomy; translation at sight of the First Book of Samuel and a critical reading of Genesis xlix, Exodus xv, and Deuteronomy xxxii, xxxiii; Hebrew Syntax. Provision will also be made for the instruction of an advanced class in Hebrew.

Professor STEVENS will lecture four times a week on the Synoptic Gospels. The work will be conducted on the basis of Mark, but the parallel passages will also be read in the class and critically examined. It is designed to make this course a thorough study of the Life of Christ, with special reference to the successive stages of his teaching. Recitations will also be held in connection with the lectures, in which the members of the class will be examined upon the passages read. During a portion of the year lectures will be given on the General Introduction to the New Testament, including the principles of Textual Criticism, and on the Special Introduction to the Synoptic Gospels, including the problems of their origin and relation. Essays on themes connected with critical New Testament study will be presented by the students and discussed in the presence of the class.

President DWIGHT will lecture twice a week on the First Epistle to the Corinthians.

Professor HARRIS will lecture twice a week on the Philosophical Basis of Theism, on Natural Theology, the Evidences of Christianity,

and the Inspiration of the Scriptures; also, as incidental to these topics, on the various forms of Skepticism.

Professor FISHER will deliver a series of lectures during the latter part of the term on Ancient History. These lectures will include a discussion of the literature on the subject, as an aid to the student in pursuing historical studies by himself. They are intended to serve the purpose of an introduction to the History of the Church.

MIDDLE YEAR :

Professor HARRIS will lecture five times a week on Systematic Theology. This course will include a full and systematic investigation of the doctrines of Christianity, and of existing questions and controversies concerning them. The subjects will be treated in the following order: The Attributes of God; The Trinity; God the Creator, and his End in Creation; God's Providential Government; God's Moral Government; Sin; Redemption—the Atonement, Regeneration, Justification by Faith, the Spiritual Life; the Kingdom of Christ on Earth, its Progress and Triumph; Eschatology. Examinations on the topics discussed will be connected with the lectures, and entire freedom of question and discussion at every lecture is invited.

Professor DAY will give instruction twice a week in Old Testament Biblical Theology, with special reference to the progressive stages of Divine revelation, as connected with the history and religious institutions of the people of Israel, prophecy, and the wisdom of the Hebrews. He will also lecture once a week on portions of the poetical books of the Hebrew Scriptures, and will give instruction in Chaldee to such members of the class as may desire it.

Professor FISHER will give instruction three times a week on General Church History, embracing specially the branches of the subject which are not included under the History of Doctrine. They comprise the following topics: The Nature, Divisions, and Sources of Church History, with a Review of the Literature on the subject; the Old or Preparatory Dispensation in its relation to Christianity; the condition of the Græco-Roman World at the Introduction of the Gospel; the Establishment of Christianity and the Conflicts of the Apostolic Age; the spread of Christianity, including especially the Conversion of the Roman Empire and of the Teutonic Nations; the Changes in Ecclesiastical Polity in the Early Centuries; the Organization of Latin Christianity under the Papacy; the Relations of the Papacy and the Church to Civil Society in the Middle Ages; the Protestant Reformation, with its Causes, and the Systems of Polity adopted by the different Protestant Churches; Christian Life, and its Characteristic Features in the Successive Eras (including the Rise and Subsequent History of Monasticism); the History of Christian Worship.

Professor STEVENS will lecture twice a week on parts of the New Testament, selected with special reference to exhibiting the form and content of the Apostolic Teaching. The subjects for the current year are: The Apostolic Discourses in the Acts and the Epistle to the Romans.

Professor BRASTOW will give instruction twice a week, by lectures and critical exercises, in the principles of Rhetoric as applied to the work of Christian preaching, with special reference to the cultivation of an appropriate pulpit style.

SENIOR YEAR:

Professor BRASTOW will give instruction four times a week, by lectures and critical exercises, in different branches of Practical Theology, as follows: he will lecture once a week on Homiletics, and once a week will conduct a class exercise in the criticism of sermons and plans of sermons. It is proposed to make these practical exercises a prominent feature in the course. He will, also, give private instruction at least twice during the year, to each member of the class in connection with the criticism of sermons, and will give personal aid in the study of Homiletical and General Literature. He will lecture twice a week upon Pastoral Theology, including the calling, training, and personal and official duties of the Christian ministry, with special reference to the leadership of the church in its various practical activities as connected with the interests of the Kingdom of God. He will also conduct class discussions of questions of practical interest relating to the work of the church.

Professor FISHER will lecture three times a week, through the year, on the History of Christian Doctrine and on Symbolical Theology. The course includes an explanation of the Origin of Theology as a Science, and a Discussion of True and False Theories of the Development of Doctrine; a Survey of the Influence of Philosophy on Theology in the Successive Eras; a Review of Authors in the field of Theological Literature; a History of Theological Thought in the Church, in relation to the several Doctrines of the Christian system, down to the present time; an account of the Comparative Tenets of the different religious bodies into which Christendom is divided.

Professor RUSSELL will give instruction three times a week in the Biblical Theology of the New Testament. It is the aim of this department to investigate the teaching of the New Testament in the character and historical connection in which that teaching is found in the writings of the New Testament. The lectures embrace the following topics: Biblical Theology as a science and its relation to other branches of Theology; the principal forms of teaching exhibited in the New Testament; their differences and relationships; the historic connection of

New Testament Theology with the Religion of the Old Testament and with the religious ideas of the later Judaism.

Professor DAY will lecture once a week on portions of the prophetic books of the Old Testament, and will read with those who wish to prosecute the study of Syriac, the Peshito version of the New Testament.

Professor STEVENS will read with the class once a week the shorter Epistles of Paul with discussion of their place in the Apostle's Life and Labors.

GRADUATE OR FOURTH YEAR CLASS:

Into this class, which was established in 1879, only those who have completed a three years' course in this or some other Theological School, can be admitted. It is designed to meet the wants of those who desire to pursue an advanced course of general theological study, or to apply themselves to special subjects of reading or investigation in any of the departments of theology, for one year or more, under the advice and direction of the Professors and with the helps furnished by the Reference and University libraries.

For the present year, the following are the subjects, selected after conference between them and the Professors, to which the whole class, or portions of it, attend. Individual members of the class pursue other branches of theological study by private arrangement with the Professors.

- I. PRESIDENT DWIGHT: The leading Apostles and their thoughts.
- II. EX-PRESIDENT PORTER: Special Topics in Philosophy and Philosophical Theology.
- III. PROFESSOR DAY: Delitzsch on the Psalms compared with the Modern Revised Versions.
- IV. PROFESSOR HARRIS: Reading of Dörner's System of Christian Doctrine.
- V. PROFESSOR FISHER: Weiss's Life of Jesus, read and discussed.
- VI. PROFESSOR BRASTOW: Schools of Preaching and the History of Preaching; with critical exercises and discussions.
- VII. PROFESSOR RUSSELL: The Philosophy of Religion.
- VIII. PROFESSOR STEVENS: Müller on the Christian Doctrine of Sin.

OPTIONAL STUDIES IN EITHER YEAR:

Professor HARPER will admit students who desire to pursue the study of Arabic or Assyrian into his graduate classes, free of charge.

Professor DAY will read with those students who desire to become familiar with the theological literature of Germany and have made sufficient progress in the language, some standard work in German on Christian doctrine, with critical remarks and references to the ablest works on special topics.

Professor WHITNEY will give instruction to those who desire it, in Sanskrit.

Dr. HENESS will give instruction, free of charge, to students who wish to learn to speak German.

Instruction in Vocal Music will be given during a portion of the year to students who desire it, by Dr. STÖCKEL, the Instructor in Music in the University.

Professor LADD's University Course on Psychology, Metaphysics, the Theory of Cognition, and the Philosophy of Religion, is particularly intended to meet the wants of Theological Students. A select number of advanced pupils in Philosophy will also be admitted to his other Graduate Courses. (See p. 98.)

The members of the Divinity School, on conditions prescribed by the Faculty, are also allowed to attend, free of expense, any of the lectures in the COLLEGE, and also in the SHEFFIELD SCIENTIFIC SCHOOL, many of which are on subjects of special importance to pastors. These lectures are on the following subjects: *Moral Philosophy*, by Ex-President PORTER; *Intellectual Philosophy*, by Professor LADD; *History*, by Professor WHEELER; *Evolution and Cosmogony*, by Professor DANA; *Anatomy*, by Professor SANFORD; *Language*, by Professor WHITNEY; *Physical Geography*, by Professor BREWER; *Agricultural Chemistry*, by Professor JOHNSON; *Practical Agriculture*, by Professor BREWER; *Botany*, by Professor EATON; *Zoology and Entomology*, by Professor VERRILL.

Those who intend to become Foreign Missionaries have the further privilege of attending the lectures in the Medical School, on the payment of the matriculation fee of five dollars.

These opportunities for obtaining wider culture will be of special value to graduates of colleges and others who desire the means of pursuing studies to which they have not attended, or in which they seek further instruction.

ELOCUTION:

A thorough course of instruction in Elocution is given to the students, which is progressive in its character and extends through the three years of study for each class.

To the Junior Class a full course of lectures is given on the principles of logical and emotional analysis and expression, and on oratorical action and vocal culture. This is followed by individual practice in speaking and reading.

In the Middle year is added extended and frequent special practice in Scripture and hymn reading and the reading and delivery of sermons.

To the Senior Class the instruction is given mainly in private lessons, and is designed to meet, so far as possible, the special needs of each individual in his preparation for the duties of the preacher's office.

EXERCISES IN PUBLIC SPEAKING:

There will be an exercise for all the classes in the MARQUAND CHAPEL, under the direction of Professor BRASTOW and in the presence of the Faculty, once in two weeks, in the reading of the Scriptures and hymns, and in the delivery of sermons, or parts of sermons or addresses. Every alternate week there will be an exercise, designed to cultivate the power of the students in *extemporaneous speaking*, by the discussion of subjects of practical importance. Weekly debates are also held by the students in societies of their own.

LICENSE TO PREACH

The regular time for applying for license is at the close of the second year's study, before which time the members of the Seminary are not allowed to preach.

PUBLIC WORSHIP

Prayers, with reading of the Scriptures and singing, are attended every morning in the MARQUAND Chapel. It is optional with each student whether to attend worship on the Lord's day in the University Chapel, or in one of the City Churches; but whatever may be his decision, it is hoped that he will engage, so far as may not be inconsistent with the prosecution of his studies, in some form of City-Mission, Sabbath-School, or other benevolent labor, for which constant opportunities are offered.

DEGREE

The Degree of Bachelor of Divinity is conferred on all members of the Department who at the end of the Senior year pass the prescribed examination, and present an approved thesis on some topic of theology.

LIBRARIES

The *University Library*, containing about 135,000 volumes in the various departments of literature and science, is especially rich in its theological part, and stands in this respect among the first libraries in the country. It is open five hours on every secular day for consultation and for the drawing of books. The Divinity students in common with the other members of the University have access to it without charge.

For a fuller notice of the advantages offered in this direction, the account of the Library, on a later page of the Catalogue, may be consulted.

The *Reference Library* of the Divinity School, established by the late Henry Trowbridge, Esq., of New Haven, and now placed in the Bacon Memorial Hall, erected in 1882 by the late Frederick Marquand, Esq., as a memorial of the late Rev. Leonard Bacon, D.D., is open for consultation during several hours of the day. It contains nearly 3,000 carefully selected volumes, in every department of theological literature, and is designed to take the place, for each student, of a large and well selected private library. The latest books and periodicals are constantly added to it as they appear.

The valuable *Library of Church Music* belonging to the late Dr. Lowell Mason, was given to the Seminary by his family. This library, which is one of the largest of its kind in the country, is placed in one of the rooms in the West Divinity Hall.

The united Libraries of the College Literary Societies, containing nearly 30,000 volumes in general literature, are accessible to theological students.

The total number of volumes in the several libraries, which are open to students, is about 170,000.

PHYSICAL EXERCISE

The College Gymnasium is open to the students of this Department at a small charge. The facilities offered in this connection are described on page 56.

DIVINITY HALLS

The East Divinity Hall, which was erected in 1870, contains in addition to the Lecture Rooms for the three classes and rooms for the Professors, accommodations for about sixty students. The West Divinity Hall (parallel with the other building and adjacent to it) was erected in 1874, and has, in addition to the room containing the Lowell Mason Library, accommodations for ninety students. The rooms in these buildings are warmed by steam, and lighted by gas, and are provided with all furniture (except bed-clothes), which may be necessary for the occupants. They will be assigned to new students in the order of their application. A few of the rooms have two bedrooms attached to them, but, in general, provision is made for each student to room alone, and all students who desire it can have this privilege.

EXPENSES AND PECUNIARY AID

Students have only to make pecuniary provision for about eight months of study annually. In the four months of vacation, from May to September, they have the opportunity to engage in Home Missionary or other labor, with remuneration for their services.

The expenses for the annual session of 35 weeks are \$10 for each student for care of room and other incidental expenses; \$25 to \$30 for fuel and lights, or one-half of this sum in case two students occupy the same room. No charge is made for instruction or room rent, or for the use of Libraries.

The expense for board will be from \$3.25 to \$3.50 a week, at which prices most of the students have obtained good board during the past year.

Students in the Junior, Middle, and Senior Classes, whose circumstances require it, will receive \$100 a year from the income of Scholarships and other funds belonging to the School. Additional aid to the amount of \$75 annually, is offered by the American College and Education

Society to its beneficiaries. These means of assistance cover all the expenses mentioned above.

Members of the Graduate or Fourth Year Class will be furnished with rooms free of rent, and no charge will be made for instruction or the use of Libraries.

The Scholarships belonging to the Department bear respectively the names of James Hillhouse, William Leffingwell, George E. Dunham, Normand Smith, E. E. Salisbury, Thomas R. Trowbridge, Charles Atwater, Richard Borden, Susan B. Dwight, Samuel Holmes, Charles Nichols, Noah Porter, John DeForest, James Dwight, J. B. Beadle, David Root, Rebecca Breed, Mary Goodman, Orin Fowler, Edward Bull, W. W. Seymour, William S. Eakin, Cassius Welles and Robert McEwen.

After the close of the second year in May, students have opportunities to receive remuneration for preaching in the neighboring churches.

In general, it may be said that the aid which is provided for every young man, of any evangelical denomination, who gives promise of usefulness in the ministry, is sufficient, in connection with his own efforts, to enable him to complete a course of theological study.

GRADUATE FELLOWSHIPS

A GRADUATE SCHOLARSHIP OR FELLOWSHIP was established in this Department, in 1876, as a memorial of the late Mrs. Aurelia D. Hooker, of New Haven. It is assigned at graduation to that member of the class to which it is offered who, having been connected with the School through the entire course and being of approved Christian character, has in the judgment of the Faculty made such proficiency in theological studies as best to qualify him for the advantages offered by this foundation for the further prosecution of the same. The person to whom the scholarship is given receives the annual income (\$700) for two years after graduation, and is expected to pursue a course of theological study under the direction of the Faculty,

either as a resident at the School, or, in case he may prefer to do so, in Europe or Palestine. THE HOOKER FELLOWSHIP was offered to the class which entered the Divinity School in September, 1886, and is also offered to the class which will enter in September, 1888.

A SIMILAR GRADUATE FELLOWSHIP yielding \$500, and affording to the student who shall receive the same privileges for one year after graduation, is offered on the same conditions, to the class which enters the School in September, 1887.

COMMENCEMENT OF THE TERM, VACATION, ETC.

The session for 1887-88 began on Thursday, September 22, and will continue till the third Wednesday in May, when the public anniversary is held. The annual examination of the classes and the meeting of the Alumni, are held in the same week. The next annual term will begin on Thursday, September 20, 1888.

By thus throwing all the vacations into one, the most favorable season of the year is secured for study, while the opportunity is given, in the four months' vacation, to engage in some form of benevolent labor, in connection with the mission efforts of the churches, or in the service of one of the benevolent societies, by which the practical experience required of the pastor, as well as pecuniary compensation, may be obtained. Should any students prefer to spend the vacation in theological reading, the Professors will counsel them in the choice of books.

Blank forms of application for admission may be obtained of the Secretary of the School, Professor George E. Day, New Haven, Conn., or from any of the other Professors.

DEPARTMENT OF MEDICINE (YALE MEDICAL SCHOOL)

FACULTY

- REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT
MOSES C. WHITE, M.D., *Professor of Pathology*
CHARLES A. LINDSLEY, M.D., *Professor of Theory and Practice of Medicine*
LEONARD J. SANFORD, M.D., *Professor of Anatomy*
WILLIAM H. CARMALT, M.D., *Professor of Surgery*
JAMES K. THACHER, M.D., *Professor of Physiology and Clinical Medicine*
FRANK E. BECKWITH, M.D., *Professor of Clinical Gynecology*
JAMES CAMPBELL, M.D., *Professor of Obstetrics and Diseases of Women and Children*
THOMAS H. RUSSELL, M.D., *Professor of Materia Medica and Therapeutics*
SAMUEL W. WILLISTON, M.D., *Assistant Professor and Demonstrator of Anatomy*
HERBERT E. SMITH, M.D., *Professor of Chemistry, and Dean*

OTHER INSTRUCTORS

- WILLIAM H. BREWER, PH.D., *Lecturer on Sanitary Science and Public Health*
HENRY P. STEARNS, M.D., *Lecturer on Insanity*
SAMUEL B. ST. JOHN, M.D., *Lecturer on Ophthalmology*
HENRY FLEISCHNER, M.D., *Lecturer on Dermatology and Clinical Medicine*
FRANK H. WHEELER, M.D., *Assistant in Pathology*
WILLIAM G. DAGGETT, M.D., *Lecturer on Bacteriology*
CHARLES E. PARK, M.D., *Assistant in Clinical Surgery*
HENRY L. SWAIN, M.D., *Lecturer on Diseases of Throat and Ear*
THOMAS G. LEE, M.D., *Lecturer on Histology*

In the fall of 1810 a charter was granted to the President and Fellows of Yale College and the President and Fellows of the Connecticut Medical Society, authorizing them to unite according to the terms of certain "Articles of

Union," before agreed upon, for the establishment of a medical seminary, to be styled the Medical Institution of Yale College. Two years later the School was organized, and in the fall of 1813 instruction was begun. The Faculty consisted of four professors, appointed by the College Corporation from nominations by the Medical Society. Degrees were conferred by the College on the recommendation of the board of examiners, consisting of the members of the Faculty and an equal number appointed by the Medical Society. The instruction consisted of didactic and clinical lectures and dissections during the short winter course. Later, instruction was given during the spring months also, and from time to time the number of instructors was increased.

That this dual nature of the School and the method of instruction were wisely planned is shown by the position which the School took at once in the medical instruction of the time. But changes were gradually taking place in the relations between practitioners and students of medicine, and even greater changes in medicine itself, which seemed to demand a different kind of instruction. This School responded early to this demand, and in 1879 an entrance examination was imposed and a graded course extending over three full years and including considerable laboratory instruction was adopted. In 1884, by an agreement with the Medical Society, the College authorities assumed the entire control of the School.

The methods of instruction now employed are similar to those in vogue in the other departments of the University, and consist of lectures, recitations, and laboratory work, in the various studies of the curriculum. The course is designed to impart to the student a thorough and practical knowledge of scientific medicine. The School has well equipped laboratories for the study of anatomy, histology, chemistry, physiology, and pathology, and the student spends much of his time in them during the first two years. In the second year he begins the practical branches of medicine, to which he devotes the third year.

While the attention of the student is particularly directed to those branches which can be studied to advantage only in a well equipped medical school, the value of clinical instruction is fully appreciated, and good facilities for illustrating the diagnosis and treatment of diseases are found in the various public medical services in the city. The details of the course of instruction are given below.

TERMS OF ADMISSION

Candidates for admission to the course leading to the degree of Doctor of Medicine, must be at least eighteen years old, and must present satisfactory testimonials of moral character from former instructors or physicians in good standing.

As evidence that he has had a sufficient preliminary education, each candidate must present proof that he has passed the matriculation examination of some scientific, literary, or professional college in good standing; or present testimonials from the proper officer that he has pursued the course at some high school, academy, or preparatory school, approved by the Faculty; or he must pass an examination in the following subjects:

1. MATHEMATICS: Algebra to Quadratics; Geometry, Euclid, two books or its equivalent; Metric system of Weights and Measures.
2. PHYSICS: Balfour Stewart's Elementary Physics, or some equivalent work.

These examinations are conducted in writing. Grammar, spelling, and construction are considered in judging of the papers. Copies of the questions of previous examinations will be furnished on application to the Dean.

These examinations will be held at the Medical School at 9 A. M., on the Wednesday preceding the opening of the first term, and on the Thursday following Commencement.

In conjunction with other Departments, examinations will be held on the Thursday after Commencement in Chicago, Cincinnati, and San Francisco. Particulars of

the time and place will be announced in the local papers. A fee of five dollars will be charged for admission to these examinations.

Students who have studied elsewhere either in recognized medical schools or under private preceptors of good standing, may present themselves for examination three weeks before Commencement and enter the examinations of the first, or of the first and second years, according to their time of study. The results of these examinations will determine the class to which they belong.

Applicants for advanced standing who present themselves at other times of the year will be assigned to such classes as from their representations they seem to be fitted for, but at the next annual examination they will be examined in all of the studies previously passed by their class as well as in those for the current year.

TERMS AND VACATIONS

The regular exercises of the School consist of three terms, covering thirty-four weeks, exclusive of a vacation of three weeks at Christmas and a recess in the spring, usually of one week.

The first term begins with the first Thursday of October, and continues eleven weeks. The second term begins three weeks after the close of the first, and continues twelve weeks. The third term is eleven weeks in length, ending with Commencement. (See Calendar, p. 6.)

COURSE OF INSTRUCTION

JUNIOR YEAR:

Chemistry: Lectures and recitations, five times a week, Professor Smith. Chemical Laboratory, four times a week, Professor Smith.

Anatomy: Lectures and recitations, four times a week, Professors Sanford and Williston. Osteology and Syndesmology, laboratory work and recitations, twice a week, Professor Williston. Dissections, four times a week from November 1 to April 1, Professor Williston. Autopsies, Professor White.

Histology: Lectures and laboratory work, twice a week, Dr. Lee.

Physiology: Recitations twice a week, Professor Thacher.

MIDDLE YEAR:

Anatomy: Lectures and recitations, four times a week, Professors Sanford and Williston. Dissections, four times a week from November 1 to April 1, Professor Williston.

Materia Medica and Therapeutics: Lectures and recitations, three times a week, Professor Russell.

Physiology: Lectures and recitations, once a week, Professor Thacher.

Pathology: Lectures and recitations, once a week, Professor White. Laboratory work, once a week, Professor White and Drs. Wheeler and Lee. Autopsies, Professor White.

Medicine: Lectures and recitations on General Medicine, three times a week, Professor Lindsley.

Surgery: Lectures on General Surgery, three times a week, Professor Carmalt.

Obstetrics and Diseases of Women and Children: Lectures and recitations, twice a week, Professor Campbell.

Dispensary Clinics, daily. Hospital Clinics. School Clinics, three times a week. Operations at the Hospital.

SENIOR YEAR:

Pathology: Lectures and recitations, once a week, Professor White. Laboratory work, once a week, Professor White and Drs. Wheeler and Lee. Autopsies, Professor White. Bacteriology, once a week, second term, Dr. Daggett.

Medicine: Lectures on General Medicine, three times a week, Professor Lindsley. School Clinic, once a week, Professor Thacher. Hospital Clinics, twice a week for five months, Professor Thacher and Dr. Fleischner. Lectures on Insanity, once a week, for nine weeks, Dr. Stearns. Sanitary Science, Professor Brewer, and Toxicology, Professor Smith, once a week, first term.

Surgery: Lectures on General Surgery, three times a week, Professor Carmalt. Surgical Clinic, once a week, Professor Carmalt. Lectures on Ophthalmology, once a week, Dr. St. John. Ear and Throat Clinic, once a week, Dr. Swain.

Obstetrics and Diseases of Women and Children: Lectures and recitations, twice a week, Professor Campbell. Clinic for Diseases of Women, Professor Beckwith.

Dispensary Clinics, daily. Hospital Clinics. School Clinics, three times a week. Operations at the Hospital.

CHEMISTRY—In the lectures and recitations on *General Chemistry* the students are as well grounded as is practicable on the fundamental principles of the science, on the formulation of reactions, and the solution of problems. The properties of the elements and their chief compounds are illustrated by experiments and the use of a large collection. Much attention is devoted to the study of the compounds of carbon; the properties and theories as to the constitution of these important bodies are illustrated by specimens and by the preparation of many of the typical compounds before the class.

Qualitative Analysis is taught so far as to require each student to be able to analyze a mixture of the salts of the common metals. Each student is furnished with a desk and all required apparatus and reagents. The course is systematic and is well adapted to cultivate habits of observation and the analytical method of thought. The elements of *Quantitative Analysis* are taught, a number of typical determinations being made by volumetric and gravimetric methods.

The course in *Physiological Chemistry* consists of recitations and a practical laboratory study of the composition and reactions of the various animal tissues and fluids, the processes of metabolism and digestion, and the action of ferments. Due attention is paid to the composition of foods, the physiological use of the digestive preparations, and other matters of medical interest, especially to the recent analytical methods employed in clinical work. The study of normal urine is supplemented by abundant practice in the chemical and microscopical examination of pathological specimens.

ANATOMY—The instruction in anatomy aims at thoroughness and comprehensiveness by means of lectures, recitations, and dissections. The lectures are fully illustrated, and the topics thus presented are reviewed and supplemented by frequent recitations from Gray's Anatomy as a text-book, thus fixing accurately the knowledge of the student. Practical work in the dissecting room, under the supervision of the Demonstrator, is required of each student. The rooms for this purpose are provided with all necessary material and appliances, and every encouragement will be given by the Professor for the pursuit of practical work, whether in human or comparative anatomy, by such students as wish to extend their studies beyond the prescribed course. Dissection forms the basis of all lasting knowledge in anatomy, and thorough work is insisted upon. The methods employed in the preservation of material are such that there is little or no danger to health from dissection wounds.

During the early part of the course, laboratory instruction in *Osteology* and *Syndesmology*, preparatory to recitations, is given by the Professor upon material in the hands of each student. In the latter part of the course the practical work upon the skeleton and cadaver is supple-

mented by a course of lectures on superficial and regional anatomy, with demonstrations and examinations upon the living subject.

Normal Histology—The course in histology consists of laboratory work with lectures and recitations. Each student is furnished with a microscope and all reagents and apparatus required for thorough work. He receives a number of sections of each tissue and organ of the body, which are carefully prepared for him in various ways, so as to illustrate fully the different points of structure, of which he makes drawings.

In addition to the study of the structure of tissues, the course includes thorough personal instruction in the technology of the subject. The student is taught practical methods of preserving specimens, of hardening, and of cutting and staining sections.

Lectures illustrated with the lantern are a special feature of the instruction, the transparencies being made from photographs of typical preparations and diagrams.

A large reference collection, abundant material, and the most recent instruments and publications, afford good facilities for advanced work.

PHYSIOLOGY—The design of the regular course of instruction in this branch may be described as essentially the impression of modern physiology on the mind of the student, on the lines and methods, and according to the measure of Dr. Foster's excellent presentation in his manual. For this purpose full experimental illustrations are given, and such other demonstrations as are of service in making the knowledge real and lasting. In the experiments the students are employed in turn as assistants, and thus acquire both an intimate knowledge of the subject and a manual skill which will be of service to them in their professional work. Informal recitations are regularly held with the design of affording the student an opportunity of asking questions, as well as of marking out for him a regular amount of private daily study.

Care is taken to call attention to the relations of physiological facts, as they present themselves, to practical medicine.

Students desirous of investigating some particular subject in experimental physiology will be taken into the physiological laboratory without extra charge, furnished with the requisite apparatus, and directed in their work.

MATERIA MEDICA AND THERAPEUTICS—The instruction in this department is given by recitations chiefly. These are illustrated by the specimens from a large collection of the materia medica, though the botany, physical character and chemical composition of drugs, receive much less attention than their physiological actions and therapeutical uses; the lectures are devoted more particularly to the elucidation of the latter subjects. A reasonable portion of time is devoted to exercises in prescription writing, in both the metric and English systems

The students are required to prescribe for a large variety of hypothetical cases, calling for the administration of most of the drugs of the materia medica.

PATHOLOGY—The instruction in pathology consists of lectures, recitations and laboratory work in pathological histology. The laboratory is supplied with excellent microscopes which are furnished to each student, together with all necessary apparatus and reagents for the preparation, study and preservation of microscopical specimens of morbid tissues.

Pathological anatomy is illustrated by a large collection of specimens and drawings, with which the museum is supplied, and supplemented by fresh pathological specimens. Students are also expected to attend all the autopsies made at the Morgue of the New Haven Hospital. This large and convenient morgue was constructed with special reference to rendering autopsies available for the instruction of students.

Bacteriology—The School has a well equipped laboratory for the study of bacteriology. The instruction in this subject consists of a course of lectures, in which the modern methods of isolating and identifying bacteria are fully demonstrated.

THEORY AND PRACTICE OF MEDICINE—The method so long in vogue in medical schools of teaching this important branch solely by didactic lectures, has for a few years past been superseded by a method combining lectures and recitations in the same exercise. It is the experience of this School that the latter method has been attended with much more satisfactory results. By this mode of instruction the student is not only informed of the special subject of the day, but is required to prepare himself from a text-book. During the recitations questions upon the subject are encouraged, and the Professor has thus the best opportunity to explain such obscure points as he may find are not fully appreciated. The intent and aim of the teaching is to give the instruction a practical direction, the teacher being constantly mindful of the real needs of the student.

Clinical Instruction is carried on at the School, at the New Haven Hospital, and at the New Haven Dispensary.

In the medical clinics at the School, the preliminary examination is made by a student, and this is reviewed and extended as far as necessary by the instructor; the latter explains the relations of the symptoms, makes the diagnosis, and gives the student in charge general directions for treatment; the student, subject to correction, gives the precise directions to the patient. All symptoms and physical signs are demonstrated to all the members of the class, and examinations of urine, sputum, and blood are made when called for.

It is the especial aim in these clinics to familiarize the student with

all methods and instruments of diagnostic examination, and the instruction is made as personal as possible. Cases which need to be seen at home are put in charge of the senior students, and obstetrical cases are assigned to them. In such cases the Professor of Clinical Medicine gives counsel whenever called on.

At the Hospital two medical clinics are held each week during five months of the term, by Professor Thacher and Dr. Fleischner; these are general medical clinics, but particular attention is given to the demonstration of the various signs of importance in physical diagnosis.

In addition to these, which are regular college exercises, clinics are held from time to time at the Hospital by Professor White and Dr. S. D. Gilbert of the visiting staff; and students are admitted to the clinics of the Dispensary.

Instruction is given on special topics in medicine, as follows:—

Mental Diseases, a course of didactic lectures by Dr. Stearns, and visits to hospitals for the insane.

Sanitary Science and Public Health, a course of lectures by Professor Brewer, including the elements of these subjects, with a discussion of methods in practice, and of public sanitary administration.

Toxicology, a course of experimental lectures by Professor Smith, including a discussion of the general subject matter of the science, and the statistics of the common poisons.

SURGERY—Three didactic lectures to the Senior and Middle classes are given weekly, on the principles and practice of surgery, the course running through two years. Illustrations of minor surgical practice are shown in the service of the New Haven Dispensary, by Professor Carmalt, who has charge of the surgical division. The wards of the New Haven Hospital afford opportunities for the observation and study of the more severe injuries and important surgical diseases. Professors Carmalt and Russell are of the visiting staff; they hold weekly clinics during their terms of service, and the advanced students are shown the cases during their whole stay in the Hospital, studying the causes which necessitate operations, where such are necessary, seeing the operations, among which are many of the most important in surgery, and observing the results of treatment.

Ophthalmology is taught in a special course of lectures by Dr. S. B. St. John, of Hartford, and illustrated by a large number of cases in the surgical clinic, particular attention being given to their elucidation.

Otology and Laryngology are taught by Dr. Swain in the School clinics. Each student is required to make examinations with instruments, and becomes familiar with their use and with the normal and principal pathological conditions of the throat and ear.

OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN—Instruction is given in obstetrics by lectures and recitations, with practical demon-

stration of the operations of midwifery. Senior students are assigned obstetrical cases from the School clinics, under the direction of one of the Faculty.

Gynaecology is taught by lectures, recitations, and clinics. The Senior class receive instruction from Professor Beckwith at the bed-side in the Hospital.

Diseases of Children—This important branch of medicine is taught by didactic lectures and recitations, as well as by clinical instruction at the Dispensary and Hospital.

THE NEW HAVEN HOSPITAL is situated but a short distance from the School building, and being the only hospital in a city of eighty thousand inhabitants, and a considerable railroad center, its wards constantly afford ample material for the illustration of disease, and furnish frequent occasion for the performance of the various surgical operations.

An operating theatre is now in the process of construction, which will be thoroughly equipped with every requisite and convenience for surgical work. The arrangements are planned with special reference to making the operations available for purposes of instruction to students.

Three Resident Physicians are appointed annually according to the results of an examination before the medical staff. Graduates of this School frequently obtain appointments also in the hospitals of neighboring cities.

THE NEW HAVEN DISPENSARY is located on the School grounds, and is visited by several thousand patients annually. Its service affords a large variety of medical cases and minor surgical ills.

EXAMINATIONS are held at the close of each year on the studies of the year. The examinations at the end of the first year are upon Chemistry, Histology, and Elementary Physiology.

Those at the end of the second year are upon Advanced Physiology, Anatomy, Materia Medica and Therapeutics.

Those at the end of the third year are upon Pathology, Surgery, Medicine, and Obstetrics.

REQUIREMENTS FOR A DEGREE

Every candidate must be twenty-one years of age, and of good moral character; he must have pursued medical studies for three years, two of which must have been spent in a recognized medical college, and the last at this School; he must have passed the required examination in all the studies of the three years' course, and have presented a satisfactory thesis.

PRIZES

THE KEESE PRIZE—The income of the fund for the Keese Prize, a memorial of Hobart Keese, M.D., of the class of 1855, which amounts to about \$160 annually, is awarded by the Faculty to that member of the graduating class who presents the best thesis. If among the theses offered, none are of sufficient merit, the prize may be withheld. The theses should be presented to the Dean on the third Wednesday before Commencement.

PRIZE FOR BEST EXAMINATIONS—A prize, consisting of a set of obstetrical instruments, will be awarded by Professor Campbell to that member of the graduating class who passes the best examinations in the studies of the Senior year.

LIBRARY

The students of this Department can obtain from the Dean tickets admitting them to the free use of the University Library, which contains over 135,000 volumes and includes the Medical Library.

GYMNASIUM

The privileges of the College Gymnasium can be had on payment of a small fee.

FEES AND EXPENSES

FIRST YEAR:

Matriculation (paid but once),	\$ 5.00
Tuition,	125.00
Practical Anatomy (including instruction and material),	10.00

SECOND YEAR:

Tuition,	125.00
Practical Anatomy,	5.00

THIRD YEAR:

Tuition (to Seniors who have paid for two years),	75.00
Graduation,	30.00

A deposit of \$5 is required in the chemical laboratory, and one of \$1 in the histological laboratory, to cover the cost of apparatus broken by the student; at the end of the year the excess over the amount of breakage will be returned.

These fees give entrance to all of the instruction of the School, including not only the lectures and quizzes, but the practical courses in analytical and physiological chemistry, urinary analysis, histology, pathology, osteology, syndesmology, and in clinical medicine and surgery.

The tuition fee for the first and second years is due at the beginning of each of the three terms, in instalments of \$45, \$45 and \$35, respectively; in the Senior year the installments are \$27, \$27 and \$21.

Fees are paid to the Treasurer of the University, except the graduation fee which is paid to the Dean.

BOND—Students who do not pay in advance are required to give a bond to the Treasurer for three hundred dollars, executed by a satisfactory bondsman; a blank for this bond will be furnished on application to the Treasurer. Those who deposit such bonds will receive term bills, with interest added, shortly before the end of each term, to be paid on or before the commencement of the next succeeding term, and students who deposit bonds must pay all arrearages before they can receive back their bonds from the Treasurer. No degree can be conferred until all term bills are discharged.

Students will be assisted in finding board and lodging by the Janitor.* Prices range from four and a half dollars a week upwards.

INSTRUCTION TO GRADUATE AND SPECIAL STUDENTS
NOT CANDIDATES FOR A DEGREE IN MEDICINE

The instruction here offered to graduates in medicine is intended to meet the requirements of two classes of students: first, those who wish to review or supplement their

* Mr. James Troy, 148 York St.

knowledge of the regular studies of the medical curriculum, as taught in this School; and second, those who wish to fit themselves in special lines of medical work, as for the duties of a medical examiner, or for medico-legal and sanitary examinations.

Any of the regular courses may be taken, and special courses to meet the requirements of the student may be arranged at hours convenient to the instructors.

Special students are not taken in the practical branches of medicine, but the general studies of the course are open to such persons as may desire to pursue them, if by their previous studies they are prepared to profit by the opportunity.

The charges for instruction will depend on the courses taken, and can be ascertained for any particular line of study by applying to the Dean.

For further information, address Professor HERBERT E. SMITH, Dean. Office hours, from 11:30 A. M. to 12:30 P. M. on Wednesdays, at the School, 150 York st.

DEPARTMENT OF LAW (YALE LAW SCHOOL)

FACULTY

- REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT
HON. FRANCIS WAYLAND, LL.D., *Dean and Professor of the Law of Evidence*
HON. WILLIAM C. ROBINSON, LL.D., *Professor of Elementary and Criminal Law and the Law of Real Property*
SIMEON E. BALDWIN, M.A., *Professor of Constitutional and Mercantile Law, Corporations, and Wills*
JOHNSON T. PLATT, M.A., *Professor of General Jurisprudence, Torts, and Equity*
WILLIAM K. TOWNSEND, D.C.L., *Edward J. Phelps Professor of Contracts and Admiralty Jurisprudence*
THEODORE S. WOOLSEY, LL.B., M.A., *Professor of International Law*

SPECIAL LECTURERS AND INSTRUCTORS

IN THE UNDERGRADUATE COURSE

- HON. EDWARD J. PHELPS, LL.D., *Instructor in Evidence*
MARK BAILEY, M.A., *Instructor in Forensic Elocution*
HON. MORRIS W. SEYMOUR, M.A., *Lecturer on Corporations*
M. DWIGHT COLLIER, M.A., *Lecturer on Attachments, Judgments, and Executions*
HON. WILLIAM E. SIMONDS, LL.B., *Lecturer on Patent Law*
THOMAS THACHER, LL.B., M.A., *Lecturer on Corporate Trusts*
JAMES M. TOWNSEND, JR., LL.B., *Lecturer on Transfer of Monetary Securities*
ROGER FOSTER, LL.B., M.A., *Lecturer on Federal Jurisprudence*

IN THE GRADUATE COURSE

- ALBERT S. WHEELER, M.A., *Instructor in Roman Law*
ARTHUR M. WHEELER, B.A., *Instructor in English Constitutional History*
WILLIAM G. SUMNER, LL.D., *Instructor in Political and Social Science*
ARTHUR T. HADLEY, B.A., *Instructor in Railway Management, and Economics of Transportation*

JOHN A. ROBINSON, LL.B., M.D., *Librarian*

It is the aim of the Law School to give to all students in its regular undergraduate course a thorough acquaintance with the general principles and rules of American law, so as to fit them for the Bar of any State; to extend to those who do not propose to become practicing lawyers, but wish to pursue some particular branches of legal or political knowledge, such assistance as they may desire; and to offer to advanced students, who are able to devote to it the necessary time, instruction in all that belongs to law as a science in its widest sense. Such instruction is now given in an undergraduate course, a graduate course, and two special courses.

The undergraduate course is mainly devoted to the practical side of legal education, but also gives some introduction to the general ideas and sources of jurisprudence. In the graduate course, the studies are so arranged that those of the first year have no necessary connection with those of the next, and can therefore be profitably pursued by themselves when the student has no time to devote to a more extended education. The first year is mainly occupied with further instruction in the practical topics begun in the undergraduate course, such as Corporations, Railroad Law, Patents, Code Pleading, and Practice in the United States Courts. The second year is mainly devoted to studies of a more scientific and philosophical character, including General and Comparative Jurisprudence, Legislation and Government, Roman Law, the French Codes, Private International Law, etc. It is believed that the studies of the undergraduate course, and of the first year of the graduate course, cover all the topics which it is desirable for the ordinary law student to examine before his admission to the Bar, and the fourth year (in which the degree of Doctor of Civil Law is awarded) is only recommended to those who desire to fit themselves to be something more than practicing lawyers. The special courses are described on page 147.

The Law School occupies an entire story of the Court House of New Haven County, facing the Green, on the

opposite side from the older College buildings. It has, upon the same floor, two lecture-rooms, a large library hall, the office of the Dean of the Faculty, and other apartments furnishing every needed convenience for quiz-clubs and debating societies. A special feature of the school is the peculiar facility which it affords its students for observing actual practice in court. This is due to the fact that in the Court House above-mentioned, two terms of the Supreme Court of Errors of Connecticut are held annually; and the Superior Court and Court of Common Pleas (the principal Civil and Criminal Courts of the State) are also in session almost daily, during each of the Law School terms.

The students are allowed the freest access to the large library of the School, examining the books on the shelves for themselves, without the intervention of the librarian. The familiarity with the reports and authorities that is thus gained, the Faculty deem of great importance in accustoming the student to prepare his cases intelligently and thoroughly in his future practice. A debating society—the Kent Club—gives a good opportunity for practice in public speaking, and the formation of class quiz clubs, to meet in the Law School apartments, is also encouraged. The discussion of legal topics, unreservedly and familiarly by the students among themselves, is promoted, and the fact that they generally come from a wide range of States renders such comparisons of ideas of special interest and value to all. The share of the School in the general advantages of the University gives the students many opportunities of broadening their views and acquiring knowledge in regard to matters outside of their strictly professional work. They can, on application to the Dean, obtain permission to be present at one or more of the special courses of graduate instruction in the Department of Philosophy and the Arts, or the lectures on Medical Jurisprudence, Anatomy, Insanity, etc., in the Medical School, on payment of a moderate fee.

The College Gymnasium is open to members of the Law School on payment of moderate fees.

COURSES OF INSTRUCTION

The regular courses of instruction are as follows:

UNDERGRADUATE COURSE

JUNIOR YEAR:

- Professor WAYLAND: Recitations—Evidence. Lectures—English Constitutional Law.
 Professor ROBINSON: Recitations—Elementary Law, Pleading.
 Professor BALDWIN: Recitations—Mercantile Law. Lectures—Nature and History of American Law, Wills.
 Professor PLATT: Recitations—General Jurisprudence, Torts. Lectures—Jurisprudence.
 Professor TOWNSEND: Recitations—Contracts.
 Professor WOOLSEY: Recitations—International Law.
 Mr. BAILEY: Lectures—Forensic Elocution.

SENIOR YEAR:

- Professor ROBINSON: Recitations—Real Property, Criminal Law. Lectures—Estates, Conveyancing, Forensic Oratory.
 Professor BALDWIN: Recitations—Mercantile Law, Corporations. Lectures—American Constitutional Law, Public Corporations, Roman Law, Practice.
 Professor PLATT: Recitations—Equity.
 Professor TOWNSEND: Recitations—Contracts.
 Professor WOOLSEY: Lectures—International Law.
 Mr. SEYMOUR: Lectures—Private Corporations.
 Mr. SIMONDS: Lectures—Patents.
 Mr. COLLIER: Lectures—Attachments, Judgments, and Executions.
 Mr. THACHER: Lectures—Corporate Trusts.
 Mr. J. M. TOWNSEND: Lectures—Transfer of Monetary Securities.
 Mr. FOSTER: Lectures—Federal Jurisprudence.

GRADUATE COURSE

FIRST YEAR:

- Professor ROBINSON: Recitations—Patents.
 Professor BALDWIN: Recitations—Railroad Law, Practice in U. S. Courts. Lectures—American Constitutional Law.
 Professor PLATT: Recitations—Municipal Corporations, Statute Law.
 Professor TOWNSEND: Recitations—Admiralty Law, Sales.
 Professor WOOLSEY: Lectures—International Law.
 Professor SUMNER: Lectures—Political History and Science.
 Professor A. M. WHEELER: Lectures—English Constitutional History.
 Professor HADLEY: Lectures—Railway management.

SECOND YEAR:

- Professor ROBINSON: Lectures—Canon Law.
 Professor BALDWIN: Recitations—Comparative Jurisprudence, Code Napoléon, Conflict of Laws.
 Professor PLATT: Recitations—General Jurisprudence.
 Professor SUMNER: Lectures—Political and Social Science.
 Mr. A. S. WHEELER: Recitations—Roman Law.
 Professor HADLEY: Lectures—Economics of Transportation.

The method of instruction, as will be seen by the foregoing schedule, is mainly that of recitations. It is the conviction of the Faculty of this Department, as well as the tradition of the University, that definite and permanent impressions concerning the principles and rules of any abstract science are best acquired by the study of standard text-books in private, followed by the examinations and explanations of the recitation room. Hence, although certain subjects are separately taught by lectures, either because the want of proper manuals, or the constant and rapid advance of learning, or economy of time, requires the adoption of that method, care is taken that the same topics shall be covered by recitation work in connection with the wider branches of the law to which they belong. The recitation hours, however, are not devoted entirely to the questioning of the student. While this is done with sufficient thoroughness to hold him up to his work of preparation, ample opportunity is afforded for a free colloquial discussion of the subject of the lesson and for the presentation and solution of the difficulties which he may have encountered in his private study. In this manner each student is brought into personal communication with the instructor in reference to his daily work, and as far as practicable receives the benefits which would be obtained if he were placed under the individual tutorship of his professor.

The several courses of study to which the attention of the student is directed in his undergraduate career are intended to familiarize him with all the branches of the law, which ordinarily become useful to the practitioner in the earlier years of his professional life. The course, embracing Jurisprudence, American Law, English and American Constitutional Law, and Elementary Law, is pursued under the guidance of four different professors. In this course, the fundamental conceptions which underlie all systems of jurisprudence are brought to the notice of the student and fully defined and explained; the peculiar doctrines which characterize our American Law are pointed out; the principles of constitutional government, and the special features it exhibits both in this country and in England, are discussed; and the entire body of the common law in its four great divisions, is reduced to clear and distinct propositions and illustrated by numerous collateral

readings. This course alone covers the ground usually traversed by the student in an office prior to his admission to the bar.

The course in Real Property includes recitations in a standard work of a general character, and, subsequently, in text-books upon special subjects, such as the law of Mortgages, the law of Landlord and Tenant, etc. Collateral to this course are two others: one, a series of lectures on Estates, in which the law and practice in Guardianships of Infants and Incapables, and in the Administration of Decedents' Estates, are considered; the other, a course of practical instruction in Conveyancing, in which the students are exercised in drawing all the instruments commonly employed in the transaction of business concerning real property.

The course on Contracts is the most extended, as it is the most important, in the School. It occupies a greater part of the time of two of the professors. It continues during both the Junior and Senior years, and embraces, among other important topics, those of Agency, Bailments, Bankruptcy and Insolvency, Bills and Notes, Consideration and Assent, Contract Liabilities of Infants and Married Women, Liens, Marine, Fire and Life Insurance, Partnership, Sales, Shipping, Sureties, Trademarks, and Telegraphs. In addition to the text-books used in this course, the leading cases, decided since the text-book was written, are referred to, thus bringing the law on each point down to the date of instruction. Collateral to this course are five others: one on Wills, in which the law of testamentary dispositions and executorship is examined; another on Patents, in which the nature of patentable inventions, the mode of issuing letters patent, and the remedies for infringement are considered; a third on Corporations in general, treating the law governing the organization, privileges, duties, and liabilities of all incorporated bodies; the fourth and fifth on Private and Public Corporations respectively, in which the practical arrangement of bodies politic of both classes is illustrated and explained.

The course on Torts consists of recitations on that subject, from recent and approved text-books, with a running commentary by the instructor, explaining and applying the principles contained in the lesson.

The course on Equity embraces the whole body of Equity Jurisprudence, and is taught by recitations from the text-book, with occasional lectures on the obscurer topics. Collateral to this course is a series of lectures on Equity Pleading, discussing the principles and practice by which equitable remedies are governed and applied.

The course on Criminal Law extends throughout the Senior year, covering the entire matter contained in the exhaustive treatises now accessible, and embracing the topics of Procedure and Evidence as well as the substantive law of Crimes. Current cases of note, arising in any part of the country, are made subjects of discussion in connection with the rules of law by which they are to be decided.

The course on Pleading embraces the subjects of Common Law

Pleading and Code Pleading, both taught by recitations and examples; while the details of the latter are enforced by requiring the students to draw complaints, answers, etc., in cases of their own selection, and to submit them to the instructors for criticism and correction.

The course on Evidence covers the matter contained in the first and second volumes of Greenleaf on Evidence: the subjects in the first volume being taught by recitation from the text-book; those in the second, by lectures amplifying and explaining, in the light of modern cases, the principles involved in the various topics. Collateral to this and the foregoing course are four others: one on Forensic Oratory, consisting of a series of lectures, in which the preparation and conduct of a suit, in all its different stages, are explained; the second, on Forensic Elocution, in which practical instruction is given in the art of public and forensic speaking; the third on Process, including the subjects of Attachments, Garnishment, and Execution; and the fourth on Practice, a series of familiar lectures on the methods of transacting general legal business.

The course on International Law occupies portions of both undergraduate years. In the Junior year the work consists of recitations covering the field occupied by Woolsey and Pomeroy on International Law. In the Senior year, instruction is given by lectures on particular topics, especially on questions which are, for the time being, exciting public attention, and which demand the application of the principles examined in the previous year.

The course on Roman Law is intended as an introduction to the more advanced studies of the Graduate years, and, though necessarily brief, is sufficient to communicate to the student an accurate knowledge of the distinguishing features and doctrines of the civil law, and to refer him to the original sources for more detailed information.

The studies of the first Graduate year have been selected with a view of preparing the intended practitioner for the higher walks of professional life. The subjects are of universal interest, the law which governs them is substantially the same in all parts of the country, they involve the most extensive financial enterprises of the age, and on these accounts form the most important practical topics at present embraced within our law. Particular attention to them has, therefore, been deemed an essential requisite to a finished legal education, and the devotion to them of an additional year, on the part of students and instructors, has been thought a wise if not a necessary measure. The various courses are critically taught both by text-book and by lecture, and each student receives all the assistance he desires in his personal examination of cases and authorities. Special attention is paid to the methods of practice and pleading in the United States Courts, both in common law, equity, and admiralty cases, and instruction is therefore given on these subjects by three of the Faculty. The students are required to draft

pleadings, and in matters of special difficulty, such as the conduct of proceedings *in rem* in admiralty, these pleadings are carried on through all the usual steps, and the issues made up are argued before the Professor. They are also made familiar with the leading cases on these points in the United States Supreme, Circuit and District Courts. The value of this year of special work to the earnest and intelligent graduate cannot be overestimated.

The courses of instruction in the second Graduate year are designed to afford to the advanced student an opportunity to round out his legal acquirements with a knowledge of the more profound and philosophical principles of human law. The primary conceptions to which he was introduced at the commencement of his studies are again taken up and developed in a scientific method, and examined in the light of various systems of practical jurisprudence now or heretofore prevailing. In view of the limited time which can ordinarily be devoted by young men to these pursuits, the courses have been so arranged as to present these fundamental ideas as clearly and in as many applications as is possible, leaving it to future private study to enlarge the outline and complete the details of the work.

The course on General Jurisprudence consists of lectures and recitations from such works as Austin on Jurisprudence, Holmes on the Common Law, etc., and the students are required to write theses on the various topics. The course on Roman Law comprises the careful study of the Institutes of Justinian, in connection with institutional works of modern authors, and the perusal of selected titles from the Digest, accompanied by oral explanation. Particular attention is devoted to this course of study, and every effort is put forth to make the students familiar with the doctrines of the civil law, as well as with the technical language in which these have been expressed. The course on Comparative Jurisprudence includes among its chief branches a careful study of the French Codes, compared with other systems of jurisprudence, particularly the Roman, English, and American, and recitations upon private international and inter-state law, with the investigation of leading cases on these subjects, decided in the French and American courts. The course on Canon Law consists of a series of lectures on the history, development, and fundamental theories of the Canon law, with select readings from the *Corpus Juris Canonici*, and from French and English treatises upon the subject. The course on Political and Social Science is one of the principal courses in the Philosophical Department of the University (see page 98), and is attended by the Graduate students of the Law School in common with the members of that Department. The course on the Economics of Transportation is a continuation of the series of Lectures on Railway Management given in the first graduate year, extending the view of the student from the single subject of railways to all the instrumentalities of commerce.

In addition to the regular courses of instruction, two Special Courses are provided: one for those who desire some acquaintance with law as a preparation for business life; the other for persons not intending any active business or professional career, but desiring to acquire an enlarged acquaintance with our political and legal systems and the rules by which they are governed. The first of these special courses covers a single year; the second comprises two years. The studies of the first course are arranged as follows:

FIRST SPECIAL COURSE—ONE YEAR

Professor ROBINSON: Recitations—Elementary Law. Lectures—Estates.

Professor BALDWIN: Recitation—Agency, Partnership, Corporations, Bills and Notes, Bankruptcy and Insolvency. Lectures—American Law, American Constitutional Law.

Professor PLATT: Recitations—General Jurisprudence, Torts.

Professor TOWNSEND: Recitations—Marriage, and Husband and Wife, Sales, Shipping, Insurance, Sureties, Bailments, Telegraphs, Trademarks, Liens.

Professor WOOLSEY: Recitations—International Law.

Professor HADLEY: Lectures—Industrial Legislation.

Mr. BAILEY: Lectures—Elocution.

Mr. COLLIER: Lectures—Attachments, Judgments, and Executions.

Mr. THACHER: Lectures—Corporate Trusts.

Mr. J. M. TOWNSEND: Lectures—Transfer of Monetary Securities.

SECOND SPECIAL COURSE—TWO YEARS

FIRST YEAR

Professor ROBINSON: Recitations—Elementary Law. Lectures—Estates.

Professor BALDWIN: Recitations—Bankruptcy and Insolvency. Lectures—American Law, American Constitutional Law, Roman Law.

Professor PLATT: Recitations—General Jurisprudence.

Professor TOWNSEND: Recitations—Sales, Insurance.

Professor WOOLSEY: Lectures—International Law.

Professor SUMNER: Lectures—Political and Social Science.

Professor FARNAM: Lectures—Public Finance.

Professor HADLEY: Lectures—Industrial Legislation.

Mr. BAILEY: Elocution.

Mr. SEYMOUR: Lectures—Private Corporations.

Mr. WHITE: Lectures—Local Government in the United States.

SECOND YEAR

Professor BALDWIN: Recitations—Private International Law.

Professor PLATT: Recitations—Municipal Corporations, General Jurisprudence.

Professor WOOLSEY: Lectures—International Law.

Professor SUMNER: Lectures—Political and Social Science.

Mr. WHEELER: Recitations—Roman Law.

Mr. THACHER: Lectures—Corporate Trusts.

Mr. J. M. TOWNSEND: Lectures—Transfer of Monetary Securities.

Mr. FOSTER: Lectures—Federal Jurisprudence.

In the latter course the students may, at their option, defer some of the studies of the first year until the second, and when desired, other branches taught in the Law School may be pursued, instead of certain of those here mentioned, at the discretion of the Faculty. Some or all of the studies of this course may be taken by those who, having received a bachelor's degree implying a course of undergraduate study equivalent to that pursued in the Academical Department, are completing their education with a view of applying for the degree of Doctor of Philosophy (see page 96). Those who take the full course may apply for the degree of Bachelor of Civil Law (B.C.L.).

Besides these various exercises, the undergraduate students are required, from time to time, to draft contracts, wills, and other similar instruments; the work of each being reviewed and commented upon, either in public or in private, by the instructor. Moot Courts are regularly held, at which one of the professors presides as judge; and the students acting as counsel, in the argument of cases, are required to draw the necessary pleadings, according to the common law or equity forms, as the case may be. Occasionally, also, cases are tried by the students before a jury of their own number, in a court regularly organized, with a full complement of judicial, clerical, and executive officers, where the proceedings are conducted in the same manner as in ordinary courts of law.

TERMS AND VACATIONS

There are three terms in each year: the Fall Term, beginning thirteen weeks from the day after Commencement, and continuing to the Thursday before Christmas; the

Winter Term, beginning in January, after a vacation of three weeks, and lasting eleven weeks; and the Spring Term, beginning after a vacation of two weeks, and continuing until Commencement.

REQUIREMENTS FOR ADMISSION

UNDERGRADUATE COURSE

Applicants for admission to the Junior Class must be at least eighteen years of age, and must produce certificates of good moral character. Students who have not taken a degree from some collegiate institution will not be admitted as candidates for the degree of LL.B., until they have passed satisfactory examinations on the outlines of the History of England (Green's History of the English People is recommended) and of the United States, and on the text of the Constitution of the United States. Those, however, will be excused from this examination who present a certificate that they have passed a "Regent's Examination for Law Students," conducted under the authority of the Board of Regents of the University of the State of New York.

To entitle a person to admission to advanced standing as a member of the Senior class, he must be at least nineteen years of age; must, if a College graduate, have studied law under a competent instructor, or at the Law School of some College or University, for at least one year; must, if not a College graduate, have studied law under a competent instructor for at least two years, or at a Law School for at least one year; and must pass such examinations as are required for those entering the Senior Class in the regular course, at which it will be sufficient if he is prepared to be questioned on Parsons on Contracts (excepting only from vol. ii, pages 257 to 488, and from vol. iii, pages 350 to 423 and 525 to 557); Blackstone's Commentaries (except Book 4), Robinson's Elementary Law, Gould on Pleading, Townsend's Notes on Code Pleading, Greenleaf on Evidence, vol. i, Cooley on Torts, and the elementary princi-

ples of testamentary law, as given in such works as Hawkins on the Construction of Wills. Those not College graduates must also pass the preliminary English entrance examination, or produce a "Law Student's Certificate," from the Regents of the University of the State of New York. Attorneys at law, however, of any State are entitled to admission to the Senior Class, without examination, on the exhibition of their certificates of admission to the bar; and special students, not candidates for a degree, will be admitted to any of the exercises of the School without examination.

GRADUATE COURSE

The first year of the graduate course is open, without examination, to graduates from any Law School, having the degree of LL.B.

The last year is open only to those who have successfully completed the studies of the preceding year, and received the degree of Master of Law (M.L.). A preliminary examination upon the outlines of Roman Law and Roman History must also be passed, by all who have not taken their Bachelor's degree at some Law School where Roman Law is a prescribed study. The degree of Doctor of Civil Law (D.C.L.) may be applied for at the end of this year, by those who have been graduated at some collegiate institution as Bachelor of Arts or Philosophy; or who are graduates of this Law School, and have attained a prescribed standard of scholarship on their examinations for the degrees of LL.B. and of M.L. A good knowledge of either the French or German language, as well as of Latin, is also required. The Faculty will present no one for the degree of D.C.L., who has not attained a high standard of proficiency in the studies pursued.

EXAMINATIONS

There will be an examination of candidates for admission to the Junior Class immediately after the opening of the Fall Term. Candidates for admission to the Senior

Class are examined at the end of the Spring Term, or beginning of the Fall Term. Seniors are examined for a degree, only at the close of the Spring Term. In the undergraduate course there are certain studies upon which all students are examined at the close of the year, and others upon which only those who desire, are examined. The award of "honors" is confined to those who pass both examinations. The Junior "pass" examination includes the studies of the year in Elementary Law, Contracts, Pleading, Evidence, Torts, and Wills. The Junior "honor" examination includes the studies of the year in Jurisprudence and International Law, and such other branches as the Faculty may from time to time prescribe. The Senior "pass" examination includes the studies of the year in Contracts, Real Property, Criminal Law, Equity, American Constitutional Law, Patents, Public and Private Corporations, and Estates. The Senior "honor" examination includes the studies of the year in International Law, Roman Law, and such other branches as the Faculty may from time to time prescribe. Examinations for degrees in the graduate course are held at the close of the Spring Term. Every candidate for a degree, both in the undergraduate and graduate courses, must also submit a written thesis on a given legal topic, which must be approved by the Faculty.

LIBRARY, PRIZES, ETC.

The special Library of the Department, which has a permanent endowment for its support (the English Fund, established by the Hon. James E. English, M.A., in 1873), contains over eight thousand volumes, and is open daily during term time. It embraces all the reports of Great Britain and America, with an extensive collection of textbooks and the leading legal periodicals. The students can also draw books from the general University libraries, containing over 160,000 volumes.

The following prizes are open to competition:

The TOWNSEND PRIZE (established by the Hon. James M. Townsend, in 1874), of \$100, to that member of the Senior Class who shall write and pronounce the best oration or thesis at the public anniversary exercises on graduation.

The JEWELL PRIZE (established by the Hon. Marshall Jewell, M.A., in 1871), of \$50, to that member of the Senior Class who receives the highest marks at the final examination of his class, at their graduation.

The BETTS PRIZE (established by Frederic H. Betts, M.A., in 1875), of \$50, to that member of the Junior Class who receives the highest marks at his annual examination.

The O. S. SEYMOUR PRIZE (established by the family of the late Hon. Origen S. Seymour, LL.D., in 1885), of \$60, to that member of the graduating class who, in the opinion of the Faculty, has made the greatest improvement in scholarship during both years of his course.

DEGREES

In the undergraduate course the degree of Bachelor of Laws is conferred by the Corporation upon the recommendation of the Faculty of the Department, based on a satisfactory "pass" examination and the submission of a satisfactory thesis, on the following persons:

- 1st. Attorneys at Law, who have been members of the Department for one year after their admission to the Bar.
- 2d. Any students who have been members of the Department for not less than two years, and who passed satisfactorily the Junior "pass" examination at the end of their first year.
- 3d. Students who have been admitted to advanced standing as members of the Senior Class, and have remained in that Class for not less than one year.

The examination for the degree is mainly in writing, and is conducted under the supervision of an examining committee, appointed by the Superior Court, and the successful candidates, if twenty-one years of age, may be thereupon admitted to the Connecticut Bar. An oral ex-

amination is also had, upon one or two studies, before members of the Bar from different States, appointed for the purpose.

The degree of Bachelor of Civil Law (B.C.L.) will be conferred, after a satisfactory examination and submission of a satisfactory thesis, on those who complete the second special course of two years. In the graduate course the degrees of Master of Laws (M.L.) and Doctor of Civil Law (D.C.L.) are conferred under the conditions before specified.

Degrees are awarded, in cases of students of unusual merit, *cum laude*, *magna cum laude*, or *summa cum laude*.

EXPENSES

The fees for tuition and use of the library in the undergraduate and first special courses are \$45 for the Fall Term, \$35 for the Winter Term, and \$35 for the Spring Term, or \$100 for the entire year; and in the graduate and second special courses, for the first year, \$50 for the Fall Term, \$40 for the Winter Term, and \$40 for the Spring Term, or \$125 for the whole year; and for the second year, \$80 for the Fall Term, \$70 for the Winter Term, and \$70 for the Spring Term, or \$200 for the whole year; to be paid to the Treasurer of the University in advance, or secured by a bond with surety to his satisfaction. Where payment is not made in advance, interest will be added. The diploma fee is \$5, and the Court fees for admission to the Bar are \$8. A further fee of \$5 is chargeable for admission to practice in the United States Courts for the District of Connecticut, if this is also desired. The tuition charges for other special students vary in proportion to the amount of instruction and supervision required. Board and lodgings can be obtained at prices ranging from \$5 a week upwards.

For further particulars, inquiries may be addressed to Professor Francis Wayland, Dean of the Faculty.

LIBRARIES

ADDISON VANNAME, M.A., *Librarian*

FRANKLIN B. DEXTER, M.A., *Assistant Librarian*

J. SUMNER SMITH, B.A., *Librarian of the Linonian and Brothers Library*

HORACE S. KEPHART, M.A., *Assistant*

The Standing Committee in charge of the Library, appointed by the Corporation, consists of the following:—President DWIGHT, Ex President PORTER, Professors SALISBURY, DAY, FISHER, NEWTON, and LOUNSBURY, and the Librarian.

The whole number of volumes in the several libraries of the University is about 188,000.

The UNIVERSITY LIBRARY contains about 135,000 volumes and at least half as many unbound pamphlets. For some years past the average annual increase has been 5,000 volumes. Of current periodical publications, including publications of learned societies, the Library receives an unusually large number, the foreign serials alone being not less than five hundred. While designed especially for the use of the officers, resident graduates, and students of the several Departments of the University, other persons may have the privilege of consulting and, by permission of the Library Committee, of drawing books. The Library is open daily, except Sundays, in term-time from 9:30 A. M. to 1 P. M., and from 2:30 to 5 P. M. (in Winter to 4:30 P. M.). In the Winter vacation it is open during the usual morning hours, and in the Summer vacation on Monday, Wednesday, and Saturday mornings.

The LINONIAN AND BROTHERS LIBRARY, occupying the north wing of the Library building, contains 29,500 volumes, to which additions of not far from one thousand volumes, chiefly of the best current literature, are annually made. It is designed primarily for the use of the students, and is open in term-time on Monday, Tuesday, Thursday, and Friday, from 1:30 to 3 P. M., and on Wednesday and

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Libraries

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Saturday from 10 A. M. to 12 M., and from 1:30 to 4 P. M. In vacation it is open on Wednesday and Saturday from 10 A. M. to 12 M.

In addition to the periodicals received at the University Library there will be found in the Reading Room (in the Cabinet building) forty-four daily newspapers, American and foreign, as many weeklies, and over fifty periodicals. This is open daily in term-time from 9:30 A. M. to 8 P. M. (on Sunday from 1 to 8 P. M.).

In Dwight Hall, which is open daily from 10 A. M. to 10 P. M., will also be found forty-five newspapers and periodicals, mostly religious, and a library of nearly one thousand volumes selected mainly with reference to the study of the Bible.

The LAW LIBRARY, containing 8,500 volumes, among which are included complete sets of the English, American, Irish, and Canadian Reports, occupies rooms adjoining those of the Law School in the County Court House. It is open daily in term-time from 8:30 A. M. to 12:45 P. M., and from 2 to 5:30 P. M. (except Saturday afternoon); in vacation from 9 A. M.

The SHEFFIELD SCIENTIFIC SCHOOL LIBRARY, in Sheffield Hall, is a valuable collection of 6,000 volumes, chiefly mathematical.

The TROWBRIDGE REFERENCE LIBRARY of the Divinity School, in Bacon Memorial Hall, contains about 3,000 volumes of standard and recent theological literature. It is open in term-time throughout the afternoon.

The LOWELL MASON LIBRARY OF CHURCH MUSIC, in West Divinity Hall, is accessible to those interested in the study of this subject. It embraces about 8,000 titles in 4,000 volumes.

The Art School has a Library of about 500 volumes. The Library of the Medical School is incorporated in the University Library.

The Library of the American Oriental Society, consisting of about four thousand books and manuscripts, is deposited in the University Library building.

PEABODY MUSEUM OF NATURAL HISTORY

TRUSTEES

PROFESSOR JAMES D. DANA, PH.D., LL.D., *Chairman*
GOVERNOR PHINEAS C. LOUNSBURY, LL.D., *ex-officio*
HON. ROBERT C. WINTHROP, LL.D.
PROFESSOR GEORGE J. BRUSH, LL.D., *Treasurer*
PROFESSOR OTHNIEL C. MARSH, PH.D., LL.D.
HON. GEORGE PEABODY WETMORE, M.A.
PROFESSOR EDWARD S. DANA, PH.D.

CURATORS

OTHNIEL C. MARSH, PH.D., LL.D., *Curator of the Geological Collection*
ADDISON E. VERRILL, M.A., *Curator of the Zoological Collection*
EDWARD S. DANA, PH.D., *Curator of the Mineralogical Collection*

In 1866, George Peabody, of London, but of Massachusetts birth, entrusted to a board of Trustees, selected by him, the sum of \$150,000, "to found and maintain a Museum of Natural History, especially in the departments of Zoology, Geology, and Mineralogy, in connection with Yale College." Of this sum \$100,000 was devoted by Mr. Peabody to the erection, "on land to be given for that purpose by the President and Fellows of Yale College, of a fire-proof building," "planned with special reference to its subsequent enlargement," to be, "when completed, the property of Yale College." Of the remainder of the gift, \$20,000 was set apart to "accumulate as a building fund," and \$30,000 to meet by its income from investment the expenses attending "the care of the museum, the increase of its collections, and the general interests of the departments of science before named."

Ten years later, in 1876, the first wing of the Museum—the part now standing—was completed and furnished with cases at a cost of \$175,000, the whole outlay being met by the accumulated building fund. The central part of the projected structure and the South wing—which will extend it to Library street—remain to be built whenever the means available for the purpose shall be adequate.

The first floor of the building is devoted to the department of Mineralogy and to the purposes of a large lecture room. The minerals occupy cases in the west room, the door of which fronts the entrance to the Museum. The minerals of the Gibbs collection, deposited by Col. George Gibbs with the College in 1809-10, and purchased in 1825 at a cost of \$20,000, and the extensive accumulations since made, are here preserved and for the most part on exhibition, making it one of the largest public collections in the country. The private cabinet of Professor Brush, arranged in drawers in his private room on the same story, although not open to general exhibition, adds greatly to the means of study and investigation in this department. Besides minerals, the exhibition room contains one of the largest collections of meteorites in the country; among the specimens, there are the famous mass of meteoric iron from Texas, weighing 1635 pounds; some hundreds of meteorites, large and small, all of which came from a single fall in Iowa, in May, 1879; the interesting Weston meteorite, which fell at Weston, Connecticut, in 1807, and was soon after described at length by Professors Silliman and Kingsley; besides many others of special interest. A case in the center of the room contains the large and beautiful collection of Chinese artistic work in stone, chiefly in Jade and Agate, with other like objects, bequeathed by Dr. S. Wells Williams, who was for forty-three years in China as Christian philanthropist, editor, author, and attaché to the American legation, and for some years before his decease occupied the chair of Professor of Chinese in the University. The large room on the same story adjoining the Mineral room, on the north side of the hall, is arranged for miner-

alogical and blowpipe instruction, with desks and a students' cabinet of minerals, and is under the charge of Mr. S. L. Penfield.

The second floor is given up to Geology and Palaeontology. The western exhibition room is occupied by a general collection of fossils, arranged for the most part in the order of the geological formations, and the southern by vertebrate fossils. The latter are mostly collections made by Professor Marsh, the larger part from regions west of the Mississippi, in Kansas, the states and territories of the Rocky mountain region, Oregon, etc. In the vertebrate room, the horizontal case to the left of the entrance contains a large suite of specimens of remains of the *toothed* birds—the *Hesperornis* and *Ichthyornis*—discovered by Professor Marsh in the Cretaceous rocks of Kansas; and near by in the first vertical case against the wall are the bones of a large *Mastodon* from Southern New York. In the center of the room there are a part of the bones of a gigantic *Dinosaur* from Wyoming, and, standing vertically, a large slab with the skeleton of a *Mosasaur* from Kansas. The horizontal case to the right of the entrance and the vertical case adjoining it against the west wall contain the remains of another *Dinosaur* about 30 feet long, which, as the specimens show, had ranges of very broad and thick plates, and one or two rows of immense spines, along the back. In the lower part of the next vertical case, lies a thigh-bone of an *Atlantosaurus* (the largest of *Dinosaurs*, and of land animals yet known), this bone having a length (when entire) of about seven feet. In a horizontal case on the south side of the same room there are, among the feet of various animals, the bones of the feet of three-toed and four-toed horses from the lower Tertiary of Wyoming. In two wall cases at the southeastern corner are the remains of the *Dinocerata*, huge mammals from the Eocene of Wyoming. In the second wall case on the east are the bones of the *Miocene Brontotheridae* from Dakota and Nebraska. Of the large collection of foot-prints belonging to the University, only

a few fine slabs are on exhibition, part of them in each of the two exhibition rooms of the second story. One of the most interesting is a slab about twelve feet long covered throughout with raindrop impressions, and, besides these, two lines of foot-prints of biped reptiles, one line of them extending the whole length of the slab.

The third story is occupied with the zoological collections so far as there is room for their exhibition. The general zoological collection occupies the western room; and nearly the whole has been accumulated since Professor Verrill took charge of the department. The specimens are well arranged for exhibition and all labeled. Facing the south door stands a vertical case devoted to the Sponges, among which are many species of the siliceous or glass sponges (*Euplectella*, etc.). Beyond the sponges, twelve cases are filled with the collection of corals, which is one of the most extensive in the country. These are followed by the Echinoderms, etc. Several cases are devoted to a collection of the marine invertebrates of New England, which is nearly complete. Other cases contain special collections of the shells and corals of the Pacific Coast of America; of the corals of Bermuda; of the shells of Florida, etc. The collections are rich in species from the deep-sea dredgings in the Atlantic, but only a small part are on exhibition. Overhead are models, of natural size, of two of the huge Cephalopods of the world: one an *Octopus* from California, 28 feet in diameter (between the tips of opposite arms), and the other, nearer the door, a species of the Newfoundland seas, related to the Squids, having enormous eyes, and a length from the posterior extremity to the tip of the longer arms, of 42 feet. The models were made for the zoological department by Mr. J. H. Emerton.

The southern exhibition room of the zoological story contains a collection of skeletons in cases on its east and south sides, commencing near the door. These are deposited by Professor Marsh. The skeletons of Mammals, beginning with man and the apes, occupy all the east side;

and then come the birds, reptiles, and fishes. The rest of the cases are occupied with collections of Vertebrates, both mounted and alcoholic, and include a nearly complete series of the species inhabiting New England.

The second and third stories have also large laboratories and work rooms, devoted to the department represented in the exhibition rooms of the story. Those of the second or geological story are in charge of Professor Marsh; and those of the third or zoological story, besides serving for work rooms, are for the laboratory exercises and instruction of students in General Zoology under Professor Verrill, and in Biology and Comparative Anatomy under Professor Sidney I. Smith. These rooms contain also large collections of specimens arranged in drawers and trays, which are open to special students in the department.

In the fourth story there is a large Archaeological collection. As the funds of the Museum are restricted to the departments of Mineralogy, Geology, and Zoology, the cases of the old Yale Museum were fitted up for this collection.

The basement is devoted to work rooms and store rooms and contains a vast amount of specimens in the departments especially of Palaeontology and Zoology. This part of the building is always closed to visitors.

The exhibition rooms of the Museum are open between 9 A. M. and 6 P. M., except in the winter, when the hours are from 9 A. M. to 5 P. M. The janitor of the building is Mr. J. Rice, of 92 High street.

THE OBSERVATORY

BOARD OF MANAGERS

REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT
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ASAPH HALL, JR., B.A., *Assistant Astronomer*

THE OBSERVATORY has been built from the avails of the gift of the late Hon. Oliver F. Winchester, of New Haven, on land given by the late Mrs. Cornelia L. Hillhouse and her daughters. The principal astronomical instruments now in use are a six-inch Heliometer constructed by Messrs. Repsold, of Hamburg, and an eight-inch Equatorial by Messrs. Grubb, of Dublin, given by Mr. Edward M. Reed, of New Haven.

Besides its ordinary astronomical work, the Observatory maintains two public services. Continuous time-signals are transmitted from the distributing clock at the Observatory to the railroads and other parties. The Observatory offers facilities also to persons interested in accurate Thermometry for the comparison of thermometers with standard instruments.

For the proper performance of these services the following equipment is in use:

1. Standard clocks, a transit instrument, chronographs, and the accessories for refined accuracy in the determination and transmission of time.

2. Apparatus for an extended (automatic) public time service.

3. Apparatus for research and comparison in Thermometry, including a collection of the best thermometers obtainable of the foreign makers and observatories which devote special attention to thermometric standards.

Descriptive circulars of the Thermometric service may be obtained by addressing the Observatory.

UNIVERSITY PRIZES

The JOHN A. PORTER PRIZE, of the value of two hundred and fifty dollars, established by the Kingsley Trust Association in 1872, is offered for the best English Essay on a prescribed subject. Competing essays must be handed in within one week after the close of the Spring Recess, and the award will be announced on Commencement Day. Any person who has been pursuing a regular course for a degree in any Department during the whole of the current College year, may compete for this prize. If none of the competing essays is of sufficient merit, the prize will not be awarded.

The subjects for essays in 1888 are as follows:—

1. The "Twa Freiers of Berwick." (Discussion of authorship, comparison with Chaucer, and discussion of anti-friar satire.)
2. The Growth of the Love of Nature in English Poetry.
3. The Schismatic Tendency of Protestantism: Are its Effects evil?
4. The Question of Empiricism and Intuitivism in the Field of Physiological Optics.
5. The Treatment of Criminals.
6. The Character and Condition of English Monasticism during the Century preceding the Dissolution of the Monasteries.
7. The Effects of the Connection with Hanover upon English History.
8. The Effects prior to 1862 of the Gold Discovery of 1848-51, upon Prices and Wages in the United States.
9. Political Parties in Cuba.

The Essays for 1888 will be due on Wednesday, April 11, at the office of the editor of the *New Englander*, No. 105 Grove street, New Haven.

The COBDEN CLUB SILVER MEDAL is awarded annually to that undergraduate of either the Academical or the Scientific Department who shows the greatest proficiency in the elements of Political Economy.

LISTS OF STUDENTS

DEPARTMENT OF PHILOSOPHY AND THE ARTS

COURSES OF GRADUATE INSTRUCTION

Frank Frost Abbott, B.A. } Yale University, 1882	Redding	153 F.
Lucius Franklin Badger, B.A. } Hamilton College, 1884	Elmira, N. Y.	285 York st.
Louis Lawrence Barnum, LL.B. } Yale University, 1886	Thompsonville	16 S. H.
John Bartholomew, PH.B. } Yale University, 1883	Hudson, N. Y.	A.
John Bennetto, B.A. } Yale University, 1887	New Haven	257 Orange st.
Malcom Booth, PH.B. } Yale University, 1879	New Haven	175 Oak st.
Edward Gaylord Bourne, B.A. } Yale University, 1883	New Haven	36 E.
Carleton Lewis Brownson, B.A. } Yale University, 1887	New Canaan	49 S. M.
Clarence Fassett Castle, M.A. } Denison University, 1883	Granville, O.	109 Elm st.
Mark Wilson Chunn, B.A. } Western Maryland College, 1882, B.D. Yale University, 1886	Mechanicsville, Md.	34 E.
George Francis Comstock, M.A. } Brown University, 1879, B.D. Yale University, 1882	Woonsocket, R. I.	12 Baldwin pl.
Clark Eugene Crandall, M.A. } Milton College, 1886	Milton, Wisc.	109 Elm st.
William Williams Crehore, B.A. } Yale University, 1886	Cleveland, O.	44 S. M.
Wilbur Lucius Cross, B.A. } Yale University, 1883	Gurleyville	58 S. M.
Anson Bartie Curtis, B.A. } University of Michigan, 1887	River Junction, Wisc.	92 Eaton st.
John Hubbard Curtis, B.A. } Yale University, 1887	New Haven	91 N. M.

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Graduate Courses

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Ira William Davenport, B.A. } Illinois College, 1885	Jacksonville, Ill.	1090 Chapel st.
Orville Henry Drake, M.A. } Bates College, 1884	Ashland, N. H.	242 York st.
George Edwin Eliot, Jr., B.A. } Yale University, 1886	Clinton	231 D.
Oliver Cummings Farrington, B.S. } Maine State Agricultural College	Portland, Me.	55 Prospect st.
Ernest Leonard Fox, B.A. } Syracuse University, 1881	North Western, N. Y.	92 Eaton st.
Harlow Stearns Gale, B.A. } Yale University, 1885	Minneapolis, Minn.	44 S. M.
George Francis Garneau, B.A. } St. Louis University, 1886	St. Louis, Mo.	132 Wall st.
Walter Greenwood Graves, B.A. } Yale University, 1886	New Haven	101 Grove st.
Asaph Hall, Jr., B.A. } Harvard University, 1882	New Haven	Observatory
Horace Sedgwick Hart, B.A. } Yale University, 1887	New Haven	104 William st.
Edmund Otis Hovey, B.A. } Yale University, 1884	Bridgeport	90 N. M.
Washington Irving Hunt, B.A. } Yale University, 1886	Columbus, Mich.	57 S. M.
Fritz Jacobson, B.A. } Augustine College, 1885	Rockford, Ill.	49 Winchester av.
William Otterbein Krohn, } Western College	Indianapolis, Ind.	23 Lilac st.
David Denison Lambert, B.A. } Yale University, 1886	New Haven	163 Bradley st.
Elliot Cowdin Lambert, B.A. } Yale University, 1886	New York City	143 York st.
Yan Phou Lee, B.A. } Yale University, 1887	New Haven	24 Gilbert av.
John Winthrop Loveland, C.E. } Pennsylvania Milit. Acad., 1887	Pittston, Pa.	159 York st.
Harry Robert Lowrie, B.A. } Adrian College, 1885	Elgin, Ill.	134 College st.
Charles Henry Ludington, Jr., B.A. } Yale University, 1887	New York City	136 F.
Charles Wesley Lyon, Jr., PH.B. } Wesleyan University, 1886	Simsbury	117 Elm st.
Frank Gardner Moore, B.A. } Yale University, 1886	Columbus, O.	57 S. M.
Frederick Wightman Moore, B.A. } Yale University, 1886	New Haven	409 Temple st.
Rikizo Nakashima, B.A. } Western Reserve Univ. 1884, B.D. Yale University, 1887	Kiyoto, Japan	104 W.

Hanns Oertel, } Meissen Fürstenschule }	Meissen, Germany	193 Dixwell av.
William Henry Parks, B.A. } Yale University, 1886 }	Clinton	34 S. M.
John Wesley Payne, M.A. } Denison University, 1883 }	New Haven	69 Lyon st.
William Lyon Phelps, B.A. } Yale University, 1887 }	New Haven	Dwight Hall
James Pelham Pierpont, B.S. } Worcester Free Institute, 1887 }	New Haven	262 York st.
Louis Valentine Pirsson, PH.B. } Yale University, 1882 }	New York City	14 S. H.
John Norton Pomeroy, B.A. } Yale University, 1887 }	San Francisco, Cal.	83 Grove st.
Samuel Bostwick Robbins, PH.B. } Yale University, 1886 }	Lakeville	70 Howe st.
Harley Fish Roberts, B.A. } Western Reserve Univ. 1884 }	Cleveland, O.	38 Elm st.
James Johnston Robinson, B.A. } Princeton College, 1884 }	Granville, O.	106 N.
John Rogers, Jr., B.A. } Yale University, 1887 }	New York City	60 W.
Eben Charles Sage, B.A. } Shurtleff College, 1878 }	New Haven	57 Prospect st.
Frank Knight Sanders, B.A. } Ripon College, 1882 }	Lakeville	41 E.
James Alward Seymour, PH.B. } Yale University, 1885 }	Auburn, N. Y.	A.
Philemon Tecumseh Sherman, B.A. } St. Louis University, 1886 }	St. Louis, Mo.	59 Grove st.
Oscar Harmon Short, PH.B. } Yale University, 1887 }	New York City	88 Wall st.
Thomas William Smith, B.A. } Illinois College, 1886 }	Jacksonville, Ill.	1090 Chapel st.
Elias Hershey Sneath, M.A. } Lebanon Valley College, 1884, } B.D. Yale University, 1884 }	Middletown	Middletown
Erwin Starr Sperry, PH.B. } Yale University, 1887 }	Ansonia	Ansonia
George Stibbitz, M.A. } Ursinus College, 1887 }	Lehigh, Pa.	109 Elm st.
Calvert Townley, PH.B. } Yale University, 1886 }	Cincinnati, O.	A.
Henry Stephens Washington, B.A. } Yale University, 1886 }	New Haven	174 Orange st.
Herbert Henry White, B.A. } Yale University, 1885 }	New Haven	147 Humphrey st.
Wilbert Webster White, B.A. } Wooster University, 1881 }	Wooster, O.	104 Prospect st.

Alfred Munday Wilson, B.A. } Denison University, 1881 }	Fox Lake, Wisc.	133 Elm st.
Lillo Morgan Wood, B.A. } Mt. Union College, 1887 }	Pittsburgh, Pa.	29 High st.
George Stanley Woodward, B.A. } Yale University, 1887 }	Wilkes-Barre, Pa.	136 F.
Evans Woollen, B.A. } Yale University, 1886 }	Indianapolis, Ind.	187 C.
Benjamin Mead Wright, } Bangor Theol. Seminary }	Greenwich	182 LYC.
GRADUATE STUDENTS, 69		

ACADEMICAL DEPARTMENT

(YALE COLLEGE)

SENIOR CLASS

Edmund Allen	St. Louis, Mo.	223 D.
Hallock Calvin Alvord	Gloversville, N. Y.	242 L.
Edward Francis Ayres	New Canaan	255 L.
Charles Francis Baldwin	New York City	204 D.
William Pitt Baldwin	New Haven	32 Martin st.
Harry Beecher	Tarrytown-on-Hudson, N. Y.	220 D.
Jesse Hatch Behrends	Brooklyn, N. Y.	255 L.
Francis Bergstrom	Minneapolis, Minn.	116 N.
William Bascom Bissell	Lakeville	22 S.
Henry Whiting Boies	Scranton, Pa.	242 L.
Clayton Harcourt Brigham	Savannah, Ga.	224 D.
William Barrett Brinsmade	Brooklyn, N. Y.	180 L.Y.C.
George Olney Brott	Thompson	273 L.
Louis Righter Brown	Auburn, N. Y.	249 L.
Henry Barnard Brownell	Bristol	103 N.
Philip Dibble Bunce	Hartford	250 L.
Winthrop Grant Bushnell	New Haven	244 L.
Arthur Kennard Buxton	Brooklyn, N. Y.	133 F.
William Campbell	New York City	251 L.
Laurance Johnson Carmalt	New Haven	251 L.
John Franklin Carter	Orange, N. Y.	247 L.
Benjamin Austin Cheney	New Haven	45 Elm st.
William Spencer Clark	Granby, Mass.	262 L.
Harlan Ward Cooley	Dubuque, Iowa	245 L.
Charles Edward Cornwall	New Haven	43 Dwight pl.
Willis Gaylord Cosad	Phelps, N. Y.	147 F.
Harry Hall Covell	Rochester, N. Y.	155 F.
Samuel Monod Cross	Westerly, R. I.	135 F.
Thomas Burnham Enders	Hartford	262 L.
Edward Sherman Farrington	Brooklyn, N. Y.	173 F.
Edward Colton Fellowes	Hartford	41 S. M.
Dudley Ferguson	Cincinnati, O.	119 N.
Irving Fisher	New Haven	115 Park st.
William Howard Fitzgerald	Chicago, Ill.	248 L.
George Barber Fowler	Thompsonville	254 L.
Hervey Richards Franklin	North Attleboro, Mass.	151 F.

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Senior Class

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Asa Oran Gallup	Oneida, N. Y.	72 N. M.
George Metcalf Gill	Orange, N. Y.	258 L.
William Clark Gordon	Wales, Mass.	116 N.
Harold Russell Griffith	Springfield, Mass.	183 L.Y.C.
Henry Huntley Haight	Alameda, Cal.	241 L.
Alfred Hand, Jr.	Scranton, Pa.	228 D.
Daniel Bailey Hardenbergh	Port Jervis, N. Y.	170 F.
Eugene Wendell Harter	Albany, N. Y.	169 F.
Frank Rufus Herrick	Cleveland, O.	249 L.
James Ormerod Heyworth	Chicago, Ill.	248 L.
Frank Wells Hubbard	Litchfield	149 F.
Dorr Albert Hudson	Wakefield, Mass.	Dwight Hall
Richard Melancthon Hurd	New York City	241 L.
Moses Jacob Husinsky	New Haven	84 N. M.
Orland Sidney Isbell	New Haven	116 Howe st.
John Couzu Kebabian	Rodosto, Turkey	99 N.
Charles Allen Klots	Brooklyn, N. Y.	135 F.
John Jacob Kutz	Reading, Pa.	246 L.
Wolcott Griswold Lane	Sandusky, O.	250 L.
Jesse Thomas Lazear	Pittsburgh, Pa.	179 L.Y.C.
Theodore Lockwood Leverett	Binghamton, N. Y.	103 N.
Solomon Oliver Levinson	Noblesville, Ind.	161 York st.
Clarence Wyman Lincoln	Philadelphia, Pa.	139 F.
William Loving, Jr.	St. Joseph, Mo.	273 L.
Harry Weber McCauley	Reading, Pa.	272 L.
Charles Berghaus McConkey	Harrisburg, Pa.	149 F.
Joseph McElroy, Jr.	Kansas City, Mo.	184 York st.
James Howard McMillan	Detroit, Mich.	234 D.
William Davis Manro	Auburn, N. Y.	215 D.
Frederic William Mar	West Haven	99 N.
Gard Maynard	Marquette, Mich.	211 D.
Duncan Salisbury Merwin	New Haven	6 S.
Carl Meyer	Chicago, Ill.	264 L.
Frank Vincent Millard	Tarrytown, N. Y.	272 L.
Arthur Lewis Moore	New York City	247 L.
David Whipple Morison	Minneapolis, Minn.	224 D.
Charles Neave	Cincinnati, O.	246 L.
Harold VanMeter Ogden	Chicago, Ill.	151 F.
Irving Olmstead	Stamford	167 F.
Frederic Holmes Paine	Bangor, Me.	175 F.
Lucius Noyes Palmer	Brooklyn, N. Y.	24 S.
William Andrews Parshall	Port Jervis, N. Y.	170 F.
Edwin Parsons	New York City	231 D.
George Madison Pavey	Washington C. H., O.	105 N.
Harrison Gray Platt	Milford	54 S. M.

Frederic Hopkins Pomroy	Lockport, N. Y.	204 D.
Edward Pond	San Francisco, Cal.	217 D.
Philip Pond	New Haven	105 N.
Herbert Warren Porter	Bridgeport	25 S.
Alfred Raymond	Brooklyn, N. Y.	139 F.
Thomas Emerson Ripley	Rutland, Vt.	245 L.
Samuel Sidney Breese Roby	Rochester, N. Y.	256 L.
Thomas Frederic Sanford	Redding	211 D.
James Robert Seeley	Bridgeport	25 S.
William Henry Seward, Jr.	Auburn, N. Y.	178 L.YC.
Fred Palmer Solley	Orange, N. J.	258 L.
Amos Alonzo Stagg	Orange, N. J.	Dwight Hall
Leo Stein	Chicago, Ill.	264 L.
Bernard Christian Steiner	Baltimore, Md.	169 F.
Henry Ebenezer Stevens, Jr.	New York City	72 N. M.
Edward Albert Stevenson	Brooklyn, N. Y.	203 D.
Frederic Augustus Stevenson	Brooklyn, N. Y.	203 D.
Henry Lewis Stimson	New York City	256 L.
William Stephen Stone	New Britain	221 D.
John Hudson Storer	Norwich	137 F.
Henry Strunz	Bristol	104 N.
Eliphalet Bradford Terry	Brooklyn, N. Y.	212 D.
Edward Seymour Thomas	Providence, R. I.	228 D.
Hector William Thomas	New York City	24 S.
Frank Lincoln Thompson	Denver, Col.	181 L.YC.
Frank Burr Tibbals	New Haven	6 S.
Edward Montclair Tillinghast	Hope Valley, R. I.	259 L.
Elbert Reynolds Tillinghast	Hope Valley, R. I.	259 L.
Herbert Cushing Tolman	Hanover, Mass.	173 F.
Winthrop Turney	Astoria, N. Y.	64 W.
Willard Lamb Velie	Moline, Ill.	222 D.
Fred Ayer Verplanck	Franklin	147 F.
William Miller Vinton	Provincetown, Mass.	215 D.
Morison Remich Waite, Jr.	Toledo, O.	178 L.YC.
Samuel Johnson Walker	Chicago, Ill.	223 D.
Brownlee Robertson Ward	New Haven	138 Temple st.
William Drew Washburn, Jr.	Minneapolis, Minn.	269 L.
Asher Miner Wellman	Friendship, N. Y.	257 L.
Monroe Nichols Wetmore	Lebanon	174 F.
Arthur White	Brooklyn, N. Y.	220 D.
Porter Gouverneur Willett	Buffalo, N. Y.	222 D.
Frank Lincoln Woodward	Denver, Col.	227 D.
Ephraim Miller Youmans	New York City	257 L.

SENIORS, 124

JUNIOR CLASS

Burr Reeve Abbe, Jr.	Hartford	281 L.
William Pope Aiken	Rutland, Vt.	74 N. M.
Joshua Wilson Allen	Hartford	221 D.
William Whitney Ames	Rockville	26 S.
William Lucius Armstrong	Cleveland, O.	120 N.
Henry Cornelius Atkins	Indianapolis, Ind.	278 L.
Arnold Plumer Austin	Philadelphia, Pa.	252 L.
Freeman Davidson Baerman	Gouverneur, N. Y.	189 C.
John Wallace Banks	Guilford	124 N.
Donald McLean Barstow	Flushing, N. Y.	131 High st.
Horace Bennet Bartholomew	Pottsville, Pa.	166 F.
John William Beckwith	Chicago, Ill.	282 L.
Ernest Smith Bishop	Guilford	88 N. M.
Dwight Walter Bissell	Ahmednagar, India	7 S.
Lester Bradner, Jr.	New Haven	55 S. M.
Walter Shaw Brewster	Brooklyn, N. Y.	176 F.
Charles Twing Brooks	Salem, O.	39 S. M.
Philip Embury Browning	Poughkeepsie, N. Y.	9 S.
Thomas Walter Buchanan	Albany, Vt.	101 N.
Hillhouse Buel	Asheville, N. C.	67 N. M.
Augustus Coburn	Indianapolis, Ind.	232 D.
George Coggill	New York City	210 D.
Albert St. Clair Cook	Hartford	227 D.
Howard Copland	Columbus, O.	106 N.
William Herbert Corbin	Hartford	100 N.
Safford Arnold Crummey	Poughkeepsie, N. Y.	226 D.
Thomas Mitchel Cullinan	Bridgeport	26 S.
John Havemeyer Daniels	Ocean Grove, N. J.	439 George st.
Wm. Chester DeForest Dickinson	New Haven	112 Asylum st.
Thomas Elliott Donnelley	Chicago, Ill.	164 F.
George Perkins Douglas	Minneapolis, Minn.	217 D.
Eugene Henry Dupee	Chicago, Ill.	144 F.
Frederick Wesley Ellis	Ansonia	9 S.
Joseph Ralph Ensign	Simsbury	164 F.
Joseph Grant Ewing	Harrisburg, Pa.	265 L.
Samuel Herbert Fisher	Cincinnati, O.	202 D.
Claude Lamot Forbes	Canastota, N. Y.	226 D.
Leopold Joseph Francke	New York City	237 D.
Albert Myrick Freeman	Provincetown, Mass.	101 N.
John Randolph Galt	Newburgh, N. Y.	237 D.
Edward James Gavegan	New Haven	37 S. M.
Charles Otis Gill	Orange, N. J.	202 D.

Porter Beach Godard	North Granby	8 S.
John Cornelius Griggs	Terryville	100 N.
Thomas Hanlon, Jr.	Pennington, N. J.	71 N. M.
Charles Hegamin, Jr.	Troy, N. Y.	480 Elm st.
Edward Barrett Hinckley	Northampton, Mass.	47 S. M.
Howland Hoadley	New York City	265 L.
Leverett Lord Hull	Cincinnati, O.	252 L.
Joseph Selden Huntington, Jr.	Old Lyme	176 F.
Robert Watkinson Huntington, Jr.	Hartford	239 D.
Arthur May Hyde	Rockville	107 N.
Baruch Israeli	New Haven	188 C.
Benjamin Willard Jacobs	Denver, Col.	38 S. M.
Arthur Edmands Jenks	Brockton, Mass.	122 N.
James Henry Keefe	Chester, Mass.	216 D.
Charles Foster Kent	Palmyra, N. Y.	277 L.
Charles Sherman King	Wabash, Ind.	134 F.
George Lyman Lamphier	Goshen	190 C.
Charles Chandler Griswold Lane	Sandusky, O.	8 S.
Charles William Lefler	Cincinnati, O.	68 N. M.
Milton Marshall Lemer	Harrisburg, Pa.	104 N.
Elmer Francis Letcher	Southbridge, Mass.	3 S.
Fred Nye Lindsay	Troy, N. Y.	84 N. M.
Edward Olaus Loe	Grand Meadow, Minn.	190 C.
Joseph Wilson Lucas	Philadelphia, Pa.	225 D.
Robert Lee Luce	Hartwick, N. Y.	216 D.
Eugene Emile McCandliss	Philadelphia, Pa.	266 L.
Joseph Sprigg McMahon	Dayton, O.	233 D.
William Adolphe McQuaid	New Haven	181 Orchard st.
Henry Eager Mason	Chicago, Ill.	43 S. M.
William Ross Matson	Hartford	42 S. M.
Mark Edward Merrifield	New York City	172 F.
John Fuller Appleton Merrill	Portland, Me.	282 L.
William Clifford Moore	New York City	266 L.
Augustus Henry Mosle	New York City	206 D.
Harry Ford Noyes	Georgetown, Mass.	120 N.
John Ball Osborne	Wilkes-Barre, Pa.	129 F.
William Herbert Page	Ironton, O.	163 F.
Edward Lambe Parsons	New Rochelle, N. Y.	280 L.
Charles Cook Paulding	Peekskill, N. Y.	163 F.
George Clarke Peck	Brooklyn, N. Y.	130 F.
Israel Hyman Peres	Memphis, Tenn.	85 N. M.
Gordon Brainerd Pike	Middletown	201 D.
Gifford Pinchot	New York City	280 L.
Robert Treat Platt	Milford	54 S. M.
Samuel Newnan Pond	Falls Church, Va.	12 S.

Harry Lathrop Reed	Manchester, Vt.	69 N. M.
Charles G. Reynolds	Wolcott, N. Y.	124 N.
Oliver Huntington Richardson	New Britain	281 L.
Henry Seymour Robinson	Hartford	238 D.
William Hayden Rockwell	New York City	206 D.
James Gamble Rogers	Chicago, Ill.	278 L.
Henry Judson Sage	Cincinnati, O.	274 L.
Frederic Henry Sanford	Palmyra, N. Y.	277 L.
William Davis Sawyer	Dover, N. H.	201 D.
Ferdinand Schwill	Cincinnati, O.	46 S. M.
Edmund Daniel Scott	New Haven	12 S.
Frederick Andrew Scott	Terryville	88 N. M.
Edward Ewing Sears	Northampton, Mass.	11 S.
Thomas Gaskell Shearman	Brooklyn, N. Y.	53 S. M.
Charles Hitchcock Sherrill	Washington, D. C.	235 D.
Charles Sanford Skilton	Northampton, Mass.	11 S.
Herbert Augustine Smith	Worcester, Mass.	46 S. M.
Samuel Lewis Smith	Cleveland, O.	225 D.
Langdon Trufant Snipe	Bath, Me.	166 F.
Horace Sheldon Stokes	Detroit, Mich.	238 D.
Lewis Austin Storrs	Hartford	141 F.
Joseph Parsons Tuttle	Hartford	85 N. M.
John Underhill	Bath, N. Y.	274 L.
Charles Abernethy Valentine	New York City	130 F.
Howard Wills Vernon	Brooklyn, N. Y.	233 D.
Horace Fletcher Walker	Detroit, Mich.	172 F.
Frederic William Wallace	Ansonia	234 D.
Thomas Pinckney Waring	Savannah, Ga.	134 F.
Charles Milnor Washington	New Haven	210 D.
Lewis Sheldon Welch	Hartford	239 D.
Hubert Wetmore Wells	Louisville, Ky.	92 N. M.
Philip Patterson Wells	Louisville, Ky.	92 N. M.
DeWitt Clinton West	Lowville, N. Y.	232 D.
Edmund Burr White	Holbrook, Mass.	129 F.
James Thomas Whittlesey	Washington, D. C.	53 S. M.
Howard Hunter Williams	North Adams, Mass.	132 F.
William Carver Williams	Cleveland, O.	122 N.
Andrew Ludwig Winters	Reading, Pa.	7 S.
George Washington Woodruff	Scranton, Pa.	69 N. M.
Horace Wylie	Washington, D. C.	235 D.

SOPHOMORE CLASS 90.

Jacob Jay Abt	Chicago, Ill.	56 S. M.
George Loveless Amerman	Syracuse, N. Y.	268 L.
Edgar Ames	St. Louis, Mo.	63 S. M.
Maximilian Baird	Chicago, Ill.	159 F.
Roger Sherman Baldwin	New Haven	44 Wall st.
Frank Pennington Ball	New York City	64 S. M.
James Robertson Barbour	New Haven	146 F.
Harry Jenkins Bardwell	Tunkhannock, Pa.	27 S.
Thomas Francis Bayard, Jr.	Wilmington, Del.	90 High st.
William Hale Beckford	Orange, N. J.	192 C.
Frederick Bedell	Montclair, N. J.	1 S.
Albert Bingley Bennett	Williamson, N. Y.	191 C.
Frank Stymets Bishop	New Haven	61 Lyon st.
Herbert Morton Bishop	New Haven	146 F.
Charles Bemis Bliss	Abington	97 N.
Charles Wright Boltwood	New Haven	77 Wall st.
*James Howard Bonbright	Philadelphia, Pa.	
Charles Cranston Bovey	Minneapolis, Minn.	218 D.
Frank Eli Bradley	Quincy, Ill.	4 S.
John Williams Brady	Warsaw, N. Y.	45 S. M.
Edward Brooks, Jr.	Philadelphia, Pa.	1010 Chapel st.
Frank Terry Brooks	New Haven	141 Edwards st.
William Thurston Brown	Eddytown, N. Y.	66 N. M.
Gouverneur Calhoun	Chicago, Ill.	2 S.
George Henry Capen	St. Louis, Mo.	152 F.
Bert Francis Case	Granby	73 N. M.
Amasa Day Chaffee	Moodus	140 F.
Howard Dennis Collins	Newport, R. I.	223 York st.
Arthur Willis Colton	Warren	4 S.
John White Corwith	Chicago, Ill.	48 S. M.
Howard Elmer Crall	New York City	263 L.
Robert Dillon Crane	New York City	209 D.
Albert Cushing Crehore	Cleveland, O.	13 S.
John Crosby, Jr.	Minneapolis, Minn.	218 D.
George Henry Danforth	Madison, N. J.	154 F.
Arthur Pomeroy Day	Hartford	17 S.
Walter Alden DeCamp	Cincinnati, O.	159 F.
Walton Dennis	Brooklyn, N. Y.	156 F.
Andrew Glassell Dickinson, Jr.	New York City	165 F.
George Wells Dupee	Chicago, Ill.	144 F.
Louis Cazenove duPont	Wilmington, Del.	61 S. M.

* Died October 31, 1887.

Clark Terry Durant	Albany, N. Y.	261 L.
Charles Dussler	Clyde, N. Y.	40 S. M.
Charles Albert Ebersole	Cincinnati, O.	10 S.
Wolcott Webster Ellsworth	Hartford	111 York st.
Arthur Espy	Cincinnati, O.	16 S.
John Dorrance Farnham	Wilkes-Barre, Pa.	116 High st.
Horace Cheney Foote	New York City	140 F.
Henry Thatcher Fowler	Poughkeepsie, N. Y.	18 S.
George William Gedney	Newburgh, N. Y.	17 Wooster pl.
George Hills Gilman	Hartford	142 F.
Rodney Lawrence Glisan	Portland, Oregon	14 S.
William Brownell Goodwin	Hartford	81 N. M.
Henry Champlin Graves	Dayton, O.	10 S.
William Sherman Greene	Brooklyn, N. Y.	209 D.
Elihu Marvin Griswold	Erie, Pa.	65 W.
Charles Humphrey Hamill	Chicago, Ill.	48 S. M.
Bert Hanson	Great Falls, N. H.	27 S.
William Harmar	Philadelphia, Pa.	1010 Chapel st.
Reginald Fairfax Harrison	New York City	1010 Chapel st.
Charles Houston Haskell	Norwich	263 L.
Lewis Scofield Haslam	Stamford	13 S.
George Collier Hitchcock	St. Louis, Mo.	90 High st.
George Day Holmes	Montclair, N. J.	1 S.
Roland Holt	New York City	123 N.
George Henry Hotaling	San Francisco, Cal.	238 York st.
Addison Hills Hough	Cleveland, O.	64 S. M.
May Humphreys	New York City	17 S.
George Arthur Hurd	New York City	143 F.
Otis King Hutchinson	Chicago, Ill.	145 F.
John DeCourcy Ireland	New York City	1010 Chapel st.
Robert Livingston Ireland	New York City	1010 Chapel st.
James Monfort Irvin	Dayton, O.	168 F.
John Day Jackson	New York City	160 F.
Norman James	Baltimore, Md.	62 S. M.
Elliott Proctor Joslin	Oxford, Mass.	18 S.
Charles Poole Kellogg	Waterbury	143 F.
Chester Henry Keogh	Chicago, Ill.	15 S.
Elmo Henry Keyes	New York City	121 York st.
Yale Kneeland	Brooklyn, N. Y.	15 S.
Stephen Hurlburt Kohler	Akron, O.	168 F.
William Alfred Korn	Norwich	59 S. M.
George Newton Lawson	Union	3 S.
Hartiman Willis Lee	Buffalo, N. Y.	1010 Chapel st.
Charles Fitch Lester	Norwich	97 N.
Thomas Jay Lloyd	East Orange, N. J.	193 C.

James Locke	Buffalo, N. Y.	1002 Chapel st.
Walter Irenæus Lowe	Whitinsville, Mass.	73 N. M.
William Chittenden Lusk	New York City	23 S.
Abram Garrison McClintock	Allegheny, Pa.	90 High st.
William Appleton McConnel	Beaver, Pa.	60 S. M.
Donald McCormick	Harrisburg, Pa.	148 F.
Ralph Augustine McDonnell	New Haven	266 Portsea st.
Thomas Edward McEvoy	Hopkinton, Mass.	76 N. M.
John Francis McGuire	Hopkinton, Mass.	76 N. M.
Henry Latham Magruder	Chicago, Ill.	A.
Henry Smith Mathewson	Pomfret	113 N.
Solomon Cristy Mead	Greenwich	182 LYC.
Frank Sherman Meara	Cottage City, Mass.	60 S. M.
Robert Hale Merriam	St. Paul, Minn.	243 L.
Knowlton Mixer	Buffalo, N. Y.	165 F.
Richard Bartholomew Moriarty	Putnam	113 N.
Samuel Benjamin Morison	Minneapolis, Minn.	98 N.
William Greenwood Morris	New Haven	408 Crown st.
Sidnev Nelson Morse	North Woodstock	107 N.
Harry Loomis Munger	Dayton, O.	214 D.
Edward Lyman Munson	New Haven	14 S.
Ashbel Barney Newell	Chicago, Ill.	61 S. M.
George Nathan Newman	Buffalo, N. Y.	12 Whalley av.
Henry Opdyke	Plainfield, N. J.	154 F.
Willard Parker, Jr.	New York City	138 F.
Herbert Parsons	New York City	138 F.
Richard Truman Percy	New Haven	214 D.
George Frederick Peter	St. Louis, Mo.	28 S.
Stowe Phelps	Brooklyn, N. Y.	1010 Chapel st.
Robert Eston Phye	Delhi, N. Y.	219 York st.
Eugene Rockwell Pike	Chicago, Ill.	133 College st.
Nathan Todd Porter, Jr.	Montclair, N. J.	156 F.
Harry Elbridge Pratt	Chicago, Ill.	56 S. M.
George Wadsworth Raynes	Charlestown, Mass.	254 York st.
Charles Eliphalet Robbins	Ruskey, N. Y.	192 C.
Frederick William Robinson	Auburn, N. Y.	45 S. M.
Stuart Henry Rowe	New Haven	30 Academy st.
Henry Manning Sage	Albany, N. Y.	1010 Chapel st.
Leonard Cutler Sanford	New Haven	216 Crown st.
Daniel David Scharps	Newburgh, N. Y.	131 F.
Henry Leo Scheuerman	Griffin, Ga.	131 F.
Ernest Lynde Selden	Hadlyme	41 High st.
Howard Van Doren Shaw	Chicago, Ill.	261 L.
Thomas Bond Shaw	Worcester, Mass.	59 S. M.
Charles Alexander Sheldon	Rutland, Vt.	63 S. M.

Edward Minot Shelton	Litchfield	191 C.
John Howard Sherwood	Englewood, N. J.	148 F.
Wallace Delafield Simmons	St. Louis, Mo.	152 F.
Charles Francis Small	Pawtucket, R. I.	186 C.
William Henry Smith	New Haven	28 S.
William Howard Smith	Ogden City, Utah	40 S. M.
Percy Hamilton Stewart	Plainfield, N. J.	157 F.
John Francis Sullivan	New Haven	304 Exchange st.
James Willcox Thompson	Bridgeport	142 F.
Ralph Thompson	Schenectady, N. Y.	1010 Chapel st.
Albert Arthur Tilney	Plainfield, N. J.	1010 Chapel st.
Evarts Tracy	Plainfield, N. J.	157 F.
Henry Veeder	Chicago, Ill.	35 High st.
Horace Garfield Waite	Chicago, Ill.	133 College st.
James Allen Warner	Albany, N. Y.	1010 Chapel st.
George Swift Welch	Gowanda, N. Y.	1002 Chapel st.
Edwin Stanley Welles	Newington	90 N. M.
William White, Jr.	Drifton, Pa.	2 S.
Albert Jason Willson	Marion, Ind.	35 High st.
Joseph Lafon Winchell	New Haven	313 Orange st.
Lewis Bartholomew Woodruff	New York City	23 S.
Henry Sterne Woodward	Washington, D. C.	16 S.
George Dallas Yeomans	East Aurora, N. Y.	1010 Chapel st.
Samuel Albert York, Jr.	New Haven	145 F.

SOPHOMORES. 155

FRESHMAN CLASS

Edward Walter Abell	North Franklin	157 Orange st.
Hildreth James Ackroyd	Albany, N. Y.	108 N.
George Irving Adams	Westborough, Mass.	77 N. M.
Thomas Gove Adams	New Haven	146 College st.
Alfred Lawrence Aiken	Norwich	270 L.
Matthias Charles Arnot	Elmira, N. Y.	219 D.
Grosvenor Atterbury	New York City	260 L.
Harry Eugene Avery	Detroit, Mich.	1090 Chapel st.
Gurdon Franklin Bailey	Groton	110 N.
Albert Ruggles Baker	Hartford	34 S. M.
Frederick Herbert Baker	Billerica, Mass.	80 N. M.
Ernest Hickock Baldwin	Cheshire	200 York st.
Cecil Kittredge Bancroft	Andover, Mass.	279 L.

Albert Hampton Barclay	Pittsburgh, Pa.	35 High st.
John Sanford Barnes, Jr.	New York City	126 High st.
James Foote Barnett	Grand Rapids, Mich.	29 S.
Walter Alden Barrows	Westborough, Mass.	77 N. M.
William Tenney Bartley	Bridgeport	127 N.
Frank Sheridan Benninghoff	Clyde, N. Y.	251 Crown st.
Louis Frederic Holbrook Betts	New York City	208 D.
David Lane Billings	New York City	162 F.
Henry Mortimer Billings	New York City	233 York st.
William Edward Billings	New York City	231 York st.
Walter Kissam Birdsall	Jersey City, N. J.	120 York st.
Edwin Whitney Bishop	Norwich	110 N.
Edward Clarence Bissell	Lakeville	22 S.
Frank Sandford Blair	Angelica, N. Y.	1179 Chapel st.
James Kingsley Blake	New Haven	361 Temple st.
Elijah George Boardman	Cleveland, O.	84 Wall st.
John Alden Bovey	Minneapolis, Minn.	31 S.
Joseph Bowden, Jr.	New Haven	122 Rosette st.
William Lewis Bradley	New Haven	139 Chestnut st.
Charles Edwin Brainard	Hartford	242 York st.
John Matthews Brenner	Dayton, O.	133 College st.
George Stephenson Brewster	New York City	254 York st.
James Wallace Broatch	Omaha, Nebr.	159 York st.
Benjamin West Bonney Brown	New York City	38 High st.
Charles Marshall Brown	Pittsburgh, Pa.	223 York st.
Frank Theodore Brown	Albany, N. Y.	108 N.
William Arthur Brown	Fitchburg, Mass.	139 Elm st.
John Henry Buck	Hartford	161 F.
John Lee Bunce	Hartford	161 F.
Curtis Clark Bushnell	New Haven	19 Perkins st.
Levi Ives Bushnell	New Haven	49 Howe st.
Charles Gibbs Carter	Titusville, Pa.	30 S.
Ernest Chadwick	Lyme	78 N. M.
Starling Winston Childs	Pittsburgh, Pa.	223 York st.
Alfred Mainwaring Coats	Providence, R. I.	109 Wall st.
Samuel Colgate, Jr.	Orange, N. J.	252 York st.
Charles Parsons Cooley	Hartford	168 York st.
William Russell Cone Corson	Hartford	242 York st.
John Joughin Cox	Bedford, N. Y.	84 Wall st.
Frank Crawford	Colebrook, N. H.	65 N. M.
Harvey Williams Cushing	Cleveland, O.	166 York st.
Will Sage Dalzell	Pittsburgh, Pa.	217 York st.
Edgar William Danner	Paterson, N. J.	174 F.
Henry Murray Dater	Brooklyn, N. Y.	252 York st.
Carroll Preston Davis	Pittsburgh, Pa.	1081 Chapel st.

Clarence Seward Davis	Jersey City, N. J.	112 N.
William Beach Dean	New York City	128 N.
Lyle Alexander Dickey	Haiku, Maui, H. I.	111 N.
Frank Ayer Dillingham	Summit, N. J.	328 Temple st.
John Wesley Doane, Jr.	Chicago Ill.	70 Grove st.
Walter Phelps Dodge	New York City	42 Elm st.
Edward Payson Drew	McIndoes Falls, Vt.	82 N. M.
Henry Dunnell	New York City	78 N. M.
Richard Bancker Duyckinck, Jr.	Brooklyn, N. Y.	192 York st.
Charles Russell Ely	Frederick City, Md.	126 N.
Malcolm Monteith Ely	Elyria, O.	1090 Chapel st.
Joe Garner Estill	Winchester, Tenn.	43 Whalley av.
Herbert Edward Farmer	Andover, Mass.	409 Temple st.
James Eugene Farmer	Cleveland, O.	46 Elm st.
Harry Tristram Ferris	Riverside	94 N. M.
Parnell Ellis Fisher	Hope Valley, R. I.	161 Orange st.
Russell Kennedy Forsyth	Allegheny, Pa.	223 York st.
Harry Gardner Foster	St. Paul, Minn.	98 N.
Reginald Foster	New York City	253 L.
Raymond Hilliard Gage	Dover, N. J.	82 N. M.
Nathan Glicksman	Chippewa Falls, Wisc.	282 George st.
De Forest Grant	New York City	252 York st.
William Phillips Graves	Andover, Mass.	279 L.
Ashbel Green, Jr.	Tenafly, N. J.	208 D.
Paul Ecoff Greer	Chicago, Ill.	128 High st.
Franklin Underwood Gregory	Brooklyn, N. Y.	237 Orange st.
Hippolyte Washington Gruener	New Haven	39 Whiting st.
Thomas Hackett Guy	Troy, N. Y.	312 George st.
Stansbury Tiffany Hager	Brooklyn, N. Y.	113 York st.
Edwin Victor Hale	Cleveland, O.	271 L.
Charles Howard Hall	Exeter, N. H.	80 N. M.
Lewis Carroll Hall	New Canaan	569 Elm st.
Lane Schofield Hart	Harrisburg, Pa.	121 York st.
Theodore Stuart Hart	Farmington	136 College st.
Perry Williams Harvey	Cleveland, O.	166 York st.
George Pickard Hawkes	New Haven	314 Crown st.
Joseph Eugene Hedges	Oregon City, Oregon	79 N. M.
George Henry Hefflon	Deep River	20 S.
Joseph Rogers Herod	Indianapolis, Ind.	75 N. M.
Russell Day Hill	Chicago, Ill.	149 College st.
William Thurston Hincks	Bridgeport	65 N. M.
George Walter Hodges	Bristol	43 Whalley av.
Frank Sheridan Hoefler	Ilion, N. Y.	238 York st.
Herbert Wolcott Holcomb	Portland, Oregon	174 George st.
Louis Lawton Hopkins	Providence, R. I.	192 York st.

Gerard Beekman Hoppin	New York City	203 York st.
Edward Franklin Horr	Bridgeport	127 N.
Hampton Pierson Howell	West Hampton Center, N. Y.	128 N.
Charles Prentice Howland	New York City	158 F.
James Coleman Ford Huntington	New York City	332 Temple st.
Robert Palmer Huntington, Jr.	New York City	332 Temple st.
Harry Cannon Hurd	Cleveland, O.	252 York st.
Francis deLacey Hyde	Plainfield, N. J.	219 D.
Leland Ingersoll	Cleveland, O.	46 Elm st.
Charles Samuel Ingham	Saybrook	186 C.
Edward Swift Isham, Jr.	Chicago, Ill.	126 High st.
Stuart Dodge Jessup	Beyrout, Syria	125 N.
Sherman Skinner Jewett	Buffalo, N. Y.	82 Wall st.
Frederick Morgan Johnson	Norwich	270 L.
Vertner Kenerson	East Cambridge, Mass.	1 TR.
Edward Learned Kernochan	Pittsfield, Mass.	42 Elm st.
Frederick Strong Kimball	Hartford	254 L.
Howard Thayer Kingsbury	New York City	203 York st.
Lewis Taylor Knox	New Castle, Pa.	137 College st.
George Shoemaker LaBar	New Haven	236 Crown st.
Howard LaField	Bridgeport	100 William st.
Joseph Langdon	Plymouth	38 High st.
Albert Lee	New York City	154 Grove st.
William Josiah Leverett	Binghamton, N. Y.	125 N.
Theodore Nelson Lillagore	Philadelphia, Pa.	203 York st.
Joseph Potts Lloyd, Jr.	East Orange, N. J.	193 C.
Harry Long	Wilkes-Barre, Pa.	64 High st.
Edward Nathaniel Loomis	Brooklyn, N. Y.	78 Whalley av.
John Frederic McBean	Chicago, Ill.	629 Chapel st.
Norman McClintock	Pittsburgh, Pa.	223 York st.
Walter McClintock	Pittsburgh, Pa.	223 York st.
Malcolm MacLear	Wilmington, Del.	120 York st.
Edward Augustus Manice	New York City	9 Library st.
Charles Capron Marsh	Rahway, N. J.	133 College st.
Abraham Loeb May	New Haven	121 Washington st.
Lafayette Benedict Mendel	Delhi, N. Y.	423 Temple st.
Herbert Lee Mills	Middlefield	177 F.
William Revell Moody	Northfield, Mass.	132 F.
Samuel Wylie Black Moorhead	Pittsburgh, Pa.	217 York st.
Sherman Morse	Canandaigua, N. Y.	253 L.
Wallace Simon Moyle	Sharon, Mass.	79 N. M.
Winthrop Sargent Gilman Noyes	St. Paul, Minn.	254 York st.
Frank Richard Oastler	New York City	233 York st.
Harry Leroy Pangborn	Jersey City, N. J.	112 N.
Amasa Junius Parker, 3d	Albany, N. Y.	242 York st.

Willis Nathaniel Parker	Niantic	226 Crown st.
Clifford Ives Parshley	Middletown	95 N. M.
Charles Orrin Penfield	Delhi, N. Y.	35 High st.
William Andrew Perrin	Titusville, Pa.	30 S.
Samuel Fowler Phelps	White Hall, Ky.	38 High st.
John Franklin Plummer, Jr.	New York City	230 D.
Robert Watson Pomeroy	Auburn, N. Y.	229 D.
William Frederick Poole, Jr.	Evanston, Ill.	29 S.
Henry Riggs Rathbone	Albany, N. Y.	242 York st.
Albert Merriman Reed	Manchester, Vt.	111 N.
Adelbert Lee Reynolds	Waterloo, N. Y.	107 York st.
William Castle Rhodes	Cleveland, O.	271 L.
George Phelps Robbins	New York City	260 L.
Frederick Harvey Robinson	Corning, N. Y.	93 N. M.
William Goodsell Rockefeller	New York City	230 D.
Marshall Jewell Root	Detroit, Mich.	109 Wall st.
William Drown Rorer	Philadelphia, Pa.	342 Howard av.
Arthur Benedict Russell	South Norwalk	409 Temple st.
Erastus Dean Ryder	Plainfield, N. J.	116 College st.
Francis Williams Sacket	Cape Vincent, N. Y.	177 F.
William Henry St. John	Hartford	168 York st.
John Barry Sears	Chicago, Ill.	70 Grove st.
Samuel Carter Shaw	Redding Ridge	96 N. M.
Henry King Sheldon, Jr.	Brooklyn, N. Y.	405 Temple st.
Edward Francis Simms	Paris, Ky.	82 Wall st.
William Erskine Simms, Jr.	Paris, Ky.	82 Wall st.
Hubbard Taylor Simpson	Winchester, Ky.	107 Wall st.
Francis Louis Slade	New York City	162 F.
Clement Grubb Smith	Joanna Furnace, Pa.	84 Wall st.
George Ferguson Smith	Andover, Mass.	1081 Chapel st.
Herbert Knox Smith	Farmington	136 College st.
Ray Burdick Smith	Lincklaen, N. Y.	1010 Chapel st.
William Griswold Smith	Toledo, O.	94 N. M.
George Howard Street	Exeter, N. H.	96 N. M.
Egerton Swartwout	Stamford	166 York st.
George Sherman Talcott	New Britain	20 S.
Daniel Gleason Tenney	New York City	237 Orange st.
George Davis Terry	Brooklyn, N. Y.	212 D.
William Nevin Thatcher	Pueblo, Col.	17 College st.
Samuel Clifton Thompson	Pottsville, Pa.	32 S.
Edward Allen Thurber	Syracuse, N. Y.	268 L.
Alliene Wetmore Treadwell	New Castle, Pa.	109 N.
Luther Henry Tucker, Jr.	Albany, N. Y.	285 York st.
Harry Hallam Tweedy	Binghamton, N. Y.	32 S.
Clifford Gray Twombly	Charlestown, Mass.	158 F.

Albert Hoyt Veeder	Chicago, Ill.	35 High st.
Frederick Collin Walcott	New York Mills, N. Y.	31 s.
Leonard Eugene Wales, Jr.	Wilmington, Del.	137 College st.
George Stewart Walton	Salem, O.	25 High st.
George Huntington Webster, Jr.	Chicago, Ill.	155 Elm st.
Hanford Smith Weed	New Canaan	1079 Chapel st.
Ernest Hubbard Wells	Louisville, Ky.	109 N.
Henry Crofut White	New York City	229 D.
Frederic Harrison Williams	Brooklyn, N. Y.	231 York st.
Henry Lane Williams	Hartford	126 N.
Edward Temple Willson	Brooklyn, N. Y.	1090 Chapel st.
Charles Strong Witbeck	Detroit, Mich.	219 York st.
Glen Wright	Cincinnati, O.	109 Elm st.
William Denison Young	New York City	166 York st.
Ira Platt Younglove	Chicago, Ill.	1079 Chapel st.
		FRESHMEN, 208

SUMMARY

SENIORS	124
JUNIORS	127
SOPHOMORES	155
FRESHMEN	208
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SHEFFIELD SCIENTIFIC SCHOOL

GRADUATE STUDENTS

Louis Lawrence Barnum, LL.B. }	Thompsonville	16 s. H.
Yale University, 1886		
John Bartholomew, PH.B. }	Hudson, N. Y.	A.
Yale University, 1883		
Malcom Booth, PH.B. }	New Haven	175 Oak st.
Yale University, 1879		
William Williams Crehore, B.A. }	Cleveland, O.	44 S. M.
Yale University, 1886		
Orville Henry Drake, M.A. }	Ashland, N. H.	242 York st.
Bates College, 1884		
Oliver Cummings Farrington, B.S. }	Portland, Me.	55 Prospect st.
Maine Agric. College		
George Francis Garneau, B.A. }	St. Louis, Mo.	132 Wall st.
St. Louis University, 1886		
Walter Greenwood Graves, B.A. }	New Haven	101 Grove st.
Yale University, 1886		
Horace Sedgwick Hart, B.A. }	New Haven	104 William st.
Yale University, 1887		
Edmund Otis Hovey, B.A. }	Bridgeport	90 N. M.
Yale University, 1884		
Elliot Cowdin Lambert, B.A. }	New York City	143 York st.
Yale University, 1886		
Louis Valentine Pirsson, PH.B. }	New York City	14 s. H.
Yale University, 1882		
Samuel Bostwick Robbins, PH.B. }	Lakeville	70 Howe st.
Yale University, 1886		
John Rogers, Jr., B.A. }	New York City	60 W.
Yale University, 1887		
James Alward Seymour, PH.B. }	Auburn, N. Y.	A.
Yale University, 1885		
Philemon Tecumseh Sherman, B.A. }	St. Louis, Mo.	59 Grove st.
St. Louis University, 1886		
Erwin Starr Sperry, PH.B. }	Ansonia	Ansonia
Yale University, 1887		
Calvert Townley, PH.B. }	Cincinnati, O.	A.
Yale University, 1886		
Henry Stephens Washington, B.A. }	New Haven	174 Orange st.
Yale University, 1886		
George Stanley Woodward, B.A. }	Wilkes-Barre, Pa.	136 F.
Yale University, 1887		

GRADUATE STUDENTS, 20

SENIOR CLASS

Arthur Chambers Alexander	Honolulu, H. I.	85 w.
John Childe Anderson	Sing Sing, N. Y.	132 Wall st.
Joseph Albright Archbald	Scranton, Pa.	36 Elm st.
Gardner Ball, Jr.	San Francisco, Cal.	36 Elm st.
William Hill Bean	New Haven	40 Pleasant st.
Charles Bart Berger	Denver, Col.	88 Wall st.
George Bart Berger	Denver, Col.	88 Wall st.
Marshall Latham Bond	New York City	43 College st.
William Tillinghast Bull	Newport, R. I.	35 High st.
George Robert Carter	Honolulu, H. I.	43 College st.
William Clarke Catlin	Providence, R. I.	86 w.
George David Colton	Collinsville	8 Prospect pl.
Charles Edward Curtis	New Haven	138 Dwight st.
Richard Sydney Curtiss	Stratford	Stratford
Jesse Chase Dann	Buffalo, N. Y.	36 Elm st.
Henry Lewis Davis	Wallingford	1010 Chapel st.
George Howard Davison	New York City	43 College st.
William Henry Davol, Jr.	Brooklyn, N. Y.	103 Wall st.
Carlton Melville DeWolff	New York City	1142 Chapel st.
Robert Russel Dickey	Dayton, O.	88 Wall st.
John Eufemio Dockendorff	Brooklyn, N. Y.	88 Wall st.
John Feeter Easterbrook	New Haven	82 York sq.
Henry Hays Ellis	Oxford, Me.	200 Grove st.
Frank Harold Farquhar	York, Pa.	88 Wall st.
John Ellis Field	Denver, Col.	59 Grove st.
Richard Huntington Franchot	Schenectady, N. Y.	43 College st.
Deane Funk	McLean, Ill.	72 w.
Henry Kellogg Goetchius	New York City	43 College st.
James Douglas Gold	West Cornwall	59 Grove st.
Addison Graves	New London	85 w.
Franklin Moses Gray	Chicago, Ill.	1142 Chapel st.
Howard Greer, Jr.	Chicago, Ill.	161 York st.
Matthew Griswold, Jr.	Erie, Pa.	65 w.
Fred R. Hamlin	Chicago, Ill.	1179 Chapel st.
Charles Merritt Heminway	Watertown	1142 Chapel st.
Noble Foster Hoggson	New Haven	126 York st.
Howard Livingstone Isbell	Union City	8 Prospect pl.
Harry Garrybrant Jenner	Dayton, O.	125 Dwight st.
Cyrus Field Judson	New York City	43 College st.
George Converse Kimball	Hartford	86 w.
Felix Kleeberg	New Haven	14 Orange st.
Edward Lambert Leeds	Stamford	130 Wall st.

Thomas Albert Legler, Jr.	Dayton, O.	1142 Chapel st.
Louis LeSassier	New Orleans, La.	72 w.
Edwin Hoyt Lockwood	New Canaan	200 Grove st.
Samuel Harkness McCrea, Jr.	Chicago, Ill.	36 Elm st.
George Grant Mason	Milburn, Ill.	132 Wall st.
William Smith Mason	Milburn, Ill.	132 Wall st.
Charles Griffin Miller	New Rochelle, N. Y.	36 Elm st.
Edward Steward Moore	New London	409 Temple st.
James Augustus Nelson	Bridgeport	1010 Chapel st.
Charles Norris, Jr.	New York City	126 Wall st.
Elbert Ellsworth Norton	New Haven	409 Temple st.
Selden Yale Osborn	New Haven	232 York st.
Franklin T. Parlin	Casselton, Dakota	62 w.
John Erskine Patrick	Omaha, Nebr.	64 High st.
Daniel Tucker Coffin Perkins	San Francisco, Cal.	36 Elm st.
Francis Cole Pratt	Hartford	36 Elm st.
John Goodell Prouty	Spencer, Mass.	36 Elm st.
George Brinckerhoff Richards	New Haven	313 York st.
Edwin Wright Robinson	New Haven	255 Ferry st.
Henry Charles Schwab	Chicago, Ill.	66 w.
Charles Kirtland Shelton	Bridgeport	103 Wall st.
Shiukichi Shigemi	Imabari, Japan	8 Prospect pl.
Ernest Ellsworth Smith	New Haven	16 Hughes pl.
Percey Franklyn Smith	New Haven	13 Home pl.
Ralph Hebert Smith	Waterbury	389 Temple st.
Frederick William Spanutius	New Haven	180 Chestnut st.
Charles Weaver Stewart	Newport, R. I.	35 High st.
Howard Canning Taylor	Green's Farms	57 Grove st.
William Conquest Tucker	New York City	61 w.
Charles Alling Tuttle	New Haven	364 Orchard st.
Morgan Walcott	New York City	389 Temple st.
Ralph McIntosh Wilcox	Portland	217 York st.
Frank Clark Woodruff	Orange	31 1/2 Broadway

JUNIOR CLASS 89

William Belknap Allen	<i>Perwee Valley, Ky.</i>	133 College st.
James Bradshaw Bailey	<i>Harrisburg, Pa.</i>	43 College st.
Erdmann Dwight Baldwin	<i>Honolulu, H. I.</i>	419 Temple st.
William Bartlett Beckley	<i>New Haven</i>	300 Howard av.
Mark Spaulding Bradley	<i>East Jaffrey, N. H.</i>	57 w.
William Dennison Breed	<i>Cincinnati, O.</i>	68 w.
William Fances Breeze	<i>San Francisco, Cal.</i>	46 Elm st.
Elton Goodrich Burroughs	<i>New York City</i>	127 Howe st.
George Tyler Burroughs, Jr.	<i>Chicago, Ill.</i>	391 Temple st.
Henry Studley Burroughs	<i>Chicago, Ill.</i>	391 Temple st.
Frank Arthur Busse	<i>New Haven</i>	3 Ridge st.
Perry Moore Caldwell	<i>Wheeling, W. Va.</i>	124 w.
Arthur Sanford Cheney	<i>New Haven</i>	45 Elm st.
Tecumseh Sherman Clark	<i>Pittsburgh, Pa.</i>	19 Kenwick House
William Shiner Clawson	<i>Woodstown, N. J.</i>	36 Elm st.
William Hillard Conyngham	<i>Wilkes-Barre, Pa.</i>	130 Wall st.
Frank Marcus Cooper	<i>Kingston, Pa.</i>	116 w.
Louis Julius Curtis	<i>Stamford</i>	389 Temple st.
Arthur Herbert Day	<i>New Haven</i>	310 York st.
Edward Hangary Day	<i>New Albany, Ind.</i>	389 Temple st.
Philip James Deering	<i>Portland, Me.</i>	266 York st.
Edwin Kirk Dillingham	<i>New Orleans, La.</i>	133 College st.
Louis Coert DuBois	<i>Hudson, N. Y.</i>	124 w.
Frederick Howard Ellsworth	<i>Hartford</i>	1 Whalley av.
Harootum Enfiagian	<i>Harpoot, Turkey</i>	92 York sq.
Edward Everest	<i>Newark, N. J.</i>	90 Wall st.
William Irving Ferrey	<i>Pittsfield, Mass.</i>	57 w.
Theron Rockwell Field	<i>New York City</i>	88 Wall st.
Lewis Brown Gawtry	<i>New York City</i>	43 College st.
Harry Cromwell Gibbons	<i>Middletown</i>	133 College st.
George Frank Goodale	<i>New Haven</i>	6 Prospect pl.
George Dexter Gregory	<i>Brooklyn, N. Y.</i>	237 Orange st.
Louis Montrose Haight	<i>Alameda, Cal.</i>	90 Wall st.
Henry Pierce Hall	<i>San Francisco, Cal.</i>	36 Elm st.
John Augustus Hartwell	<i>Unionville, N. Y.</i>	128 Temple st.
Leland Howard	<i>Hartford</i>	43 College st.
Arthur Grant Huntington	<i>Cleveland, O.</i>	132 Wall st.
Arthur Wiswell Jepson	<i>New Haven</i>	30 Grove st.
John Henry Klock, Jr.	<i>New Haven</i>	1201 Chapel st.
Edwin Forest Landy	<i>Cincinnati, O.</i>	101 w.
C. Carlton Lee	<i>Cleveland, O.</i>	132 Wall st.
Eugene Lentilhon	<i>New York City</i>	71 w.

George Alfred Lund	<i>West Stratford</i>	289 York st.
David Lyman	<i>Middlefield</i>	106 Wall st.
Boynnton Wells McFarland	<i>New Haven</i>	67 Mansfield st.
Frank Aloysius Maloney	<i>New Haven</i>	34 Ferry st.
Kingsley Walton Martin	<i>Staten Island, N. Y.</i>	132 Wall st.
Ferris Jacobs Meigs	<i>New York City</i>	88 Wall st.
George Wellington Miles, Jr.	<i>Milford</i>	Milford
John Raymond Mitchell	<i>Franklin, Pa.</i>	120 High st.
Augustus René Moën	<i>New York City</i>	43 College st.
Edwin Morrison	<i>Cincinnati, O.</i>	132 Wall st.
William Brewster Morrison	<i>Willimantic</i>	128 Temple st.
William Belknap Newberry	<i>New Haven</i>	73 Whitney av.
Roger Samuel Newell	<i>Bristol</i>	88 Wall st.
Edwin Oppenheimer	<i>New Haven</i>	78 Lyon st.
Frank Lee Owen	<i>Oakland, Cal.</i>	46 Elm st.
Gains Foster Paddock	<i>St. Louis, Mo.</i>	36 Elm st.
Kenyon Vickers Painter	<i>Cleveland, O.</i>	155 Elm st.
Frank Wyman Parmerter	<i>Plattsburgh, N. Y.</i>	27 Wall st.
William Henry Pierce	<i>South Britain</i>	22 Whalley av.
Edwin Read	<i>Brooklyn, N. Y.</i>	36 Elm st.
Irwin Rew	<i>Chicago, Ill.</i>	90 Wall st.
Henry Work Rianhard	<i>New York City</i>	43 College st.
Paul Skiff Robinson	<i>New Haven</i>	137 Edwards st.
Alfred Schwab	<i>Chicago, Ill.</i>	66 w.
Paul Sheaffer	<i>Pottsville, Pa.</i>	105 Wall st.
Frederick Robinson Shepard	<i>Minneapolis, Minn.</i>	43 College st.
Arthur Bertram Skelding	<i>Riverside</i>	393 Temple st.
George Jarvis Spencer	<i>Old Saybrook</i>	411 Temple st.
Charles Emerson Stone	<i>Spencer, Mass.</i>	128 High st.
Danford Newton Barney Sturgis	<i>New York City</i>	71 w.
Lewis Hobart Sweetser	<i>San Francisco, Cal.</i>	389 Temple st.
Henry Hutchins Sykes	<i>New Haven</i>	114 High st.
Orien Edward Taft	<i>Chicago, Ill.</i>	36 Elm st.
Abraham Louis Thalheimer	<i>New Haven</i>	100 St. John st.
Charles Newman Traver	<i>Hudson, N. Y.</i>	393 Temple st.
Clarence Beecher Twitchell	<i>New Haven</i>	68 Asylum st.
Harry Mighels Verrill	<i>Portland, Me.</i>	90 Wall st.
Robert Taylor Wheeler	<i>Jersey City, N. J.</i>	88 Wall st.
Guthrie Minor Wilson	<i>Bardstown, Ky.</i>	389 Temple st.
John Albert Woodruff	<i>Windsor Locks</i>	55 Prospect st.
Julian Valette Wright	<i>Cincinnati, O.</i>	68 w.
William Charles Wurtenberg	<i>Willink, N. Y.</i>	88 Wall st.

FRESHMAN CLASS 90

Philip Allen	Providence, R. I.	133 College st.
John Alling, Jr.	Chicago, Ill.	128 High st.
Philip Danforth Armour, Jr.	Chicago, Ill.	44 Elm st.
Cyrus Morgan Arnold	New York City	58 w.
George Perkins Bissell, Jr.	Wilmington, Del.	150 College st.
Theodore Whitney Blake	Whitneyville	29 Wall st.
George Henry Blakeslee	Schenectady, N. Y.	65 Grove st.
Wendell Phillips Brown	Canterbury	81 Wall st.
Horace Ray Burritt	New Haven	54 Edwards st.
William Harper Butler	Olean, N. Y.	3 Trumbull st.
Edward Newton Camp	Chicago, Ill.	395 Temple st.
Frederic Carter	Waterbury	58 w.
Robert Lockwood Casement	Painesville, O.	1150 Chapel st.
Horace Bushnell Cheney	South Manchester	133 College st.
John Platt Cheney	South Manchester	206 Crown st.
Ralph Roger Clapp	Pawtucket, R. I.	35 High st.
Duane Phillips Cobb	Kankakee, Ill.	36 Wall st.
Clarence Beverly Davison	New York City	130 Wall st.
Harry Goodyear Day	Seymour	114 High st.
Nelson Lloyd Deming	Danbury	16 Elm st.
Walter Dodge	Stamford	138 College st.
Robert Metcalf Dodsworth	Los Angeles, Cal.	31 Trumbull st.
Harrison Irwin Drummond	St. Louis, Mo.	425 Temple st.
Julian DuBois	Hudson, N. Y.	150 College st.
Harry Jay English	Chicago, Ill.	395 Temple st.
Alexander William Evans	New Haven	12 High st.
Willis Judson Fenn	Plymouth	395 Temple st.
Freeland Barney Gardner	Chicago, Ill.	38 Elm st.
Ralph Schuyler Goodwin, Jr.	Thomaston	395 Temple st.
Neil Gray, Jr.	Oswego, N. Y.	1150 Chapel st.
George Nelson Griffin	Sing Sing, N. Y.	391 Temple st.
William Wickware Griffin	Detroit, Mich.	266 York st.
Everett Gallup Griggs	St. Paul, Minn.	1142 Chapel st.
Lewis Winters Gunckel	Dayton, O.	297 York st.
Charles Newton Gunn	New Haven	255 York st.
Joseph Barnard Hall	Hartford	293 York st.
George Isaac Hemingway	Westville	Westville
William Robert Henderson	Randolph, N. Y.	101 w.
Lawrence Heyworth	Chicago, Ill.	1079 Chapel st.
Harry Dutton Holbrook	Utica, N. Y.	158 York st.
Frank Holden	Bridgeport	1010 Chapel st.
Theodore Dudley Irwin	Albany, N. Y.	90 Wall st.

Adrian Muller Isham	New York City	130 Wall st.
Walter Tracy Ives	Montreal, Canada	391 Temple st.
Duncan Starr Johnson	Cromwell	10 Orange st.
Nathaniel Sherburne Kaime	St. Louis, Mo.	237 Orange st.
Henry Hawley Keeler	Ridgefield	149 Bradley st.
Elbridge Byron Keith	Chicago, Ill.	70 Grove st.
William Matthew Kenna	New Haven	Selden House
Charles Louis Kirschner	New Haven	94 Prospect st.
Harvey Merrill Lawson	Union	200 York st.
Franklin Lyman Lawton	Meriden	Meriden
Oliver Smith Lyford, Jr.	Chicago, Ill.	1136 Chapel st.
Herbert McBride	Cleveland, O.	1150 Chapel st.
Frank Dunlevy McCaulley	New York City	928 Chapel st.
John Carter Machale	Sawyer City, Pa.	297 York st.
Henry Porter McKnight	Louisville, Ky.	391 Temple st.
Campbell Emory McMichael	Philadelphia, Pa.	154 Grove st.
Archibald McNeil	New Haven	149 Bradley st.
Frederick James Mann	Utica, N. Y.	25 High st.
William Crosby Marshall	Cromwell	65 Grove st.
Samuel Richard Maynard	Utica, N. Y.	126 Wall st.
Harral Mulliken	Washington, D. C.	42 Elm st.
James Moorhead Murdoch	Pittsburgh, Pa.	1090 Chapel st.
John Stevens Murdock	Westbrook	1575 Chapel st.
Paul Nash	Westport	409 Temple st.
Philip Schaff Noble	Chicago, Ill.	395 Temple st.
Edgar Burr Northrup	Broadalbin, N. Y.	44 Elm st.
Alfred Walling Ogden	Keyport, N. J.	286 Norton st.
Charles Augustus Otis, Jr.	Cleveland, O.	120 High st.
Joseph Edward Otis, Jr.	Chicago, Ill.	130 Wall st.
Robert Ellsworth Peck	New Haven	486 Elm st.
John Frederick Pennell	New Haven	109 High st.
Henry Adams Plumer	Germantown, Pa.	Kenwick House
William Strong Post	Hartford	1010 Chapel st.
John Conover Powell	Dayton, O.	297 York st.
Philip Durkee Rice	St. Paul, Minn.	44 Elm st.
Frank Russell Rich	New Haven	369 Shelton av.
Charles Talbot Richmond	Providence, R. I.	237 Orange st.
Walter Brooks Robinson	Chicago, Ill.	99 Wall st.
William Sterling Roby	Rochester, N. Y.	1150 Chapel st.
Charles Francis Rogers	New Canaan	60 w.
Edwin Rowe, Jr.	New Haven	104 Park st.
James Woodrow Ruthven	Scranton, Pa.	266 York st.
Charles Francis Sawyer	Dover, N. H.	1010 Chapel st.
Ernest Elisha Severy	Waterbury	200 York av.
Chester Burdell Shepard	Middletown	10 Orange st.

Chauncey Davis Short	New York City	130 Wall st.
William Alexander Simms	Dayton, O.	393 Temple st.
John Theodore Snitzler	Chicago, Ill.	297 York st.
Albert Kingsley Spencer	Cleveland, O.	43 College st.
Walter Tuttle Spencer	Guilford	27 College st.
Charles Bailey Spruce	Waterbury	391 Temple st.
Frederic Clark Strong	Winsted	242 York st.
Harry Roy Sweny	Albany, N. Y.	149 College st.
John Clayton Tracy	Fair Haven	299 Center st., F. H.
Albert Milford Turner	Northfield	161 Orange st.
Charles VanRensselaer	Stottville, N. Y.	126 Wall st.
John McKee Verhoeff	Louisville, Ky.	53 Prospect st.
William Ernest Walker	Chicago, Ill.	1079 Chapel st.
Samuel Edwin Wardell	New Haven	39 Lynwood st.
Edward Young Ware	St. Louis, Mo.	421 Temple st.
William Walker Weare	Chicago, Ill.	393 Temple st.
Henry Lord Wheeler	Chicago, Ill.	295 York st.
Frederick Wareham Williams	Norwich	44 Elm st.
George Cushing Worthington	Cleveland, O.	133 College st.
		FRESHMEN, 106

SPECIAL STUDENTS NOT CANDIDATES FOR A DEGREE

Joseph Stanley Brown	Washington, D. C.	14 S. H.
John Stockly Cary	Cleveland, O.	28 Kenwick House
James Henry Coleman	New York City	63 W.
John Nesbitt Conyngham	Wilkes-Barre, Pa.	130 Wall st.
Louis Stanley Ferry	New Haven	261 Crown st.
John Kenneth Mackenzie	London, England	28 Kenwick House

SPECIAL STUDENTS, 6

SUMMARY

GRADUATES	20
SENIORS	75
JUNIORS	84
FRESHMEN	106
SPECIAL	6
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SCHOOL OF THE FINE ARTS

Georgie G. Allis	Birmingham
M. Ona. Banks	New Haven
Nettie E. Barnum	New Haven
Constance H. Blake	New Haven
Margaret W. Buck	Poughkeepsie, N. Y.
Ida G. Buell	Clinton
Susan J. Candee	New Haven
Mary F. Carew	New Haven
Laurance J. Carmalt	New Haven
Genevieve A. Cowles	Farmington
Maud A. Cowles	Farmington
Grace Daggett	New Haven
Ozias B. Dodge	Groton, Mass.
Harriet C. Downs	Birmingham
Clara R. Durgy	New Haven
Elizabeth T. Fitch	New Haven
Rosa Fleetwood	New Haven
Irving E. Hurlbut	New Haven
Harriet R. Kirby	New Haven
Josephine M. Lewis	New Haven
Mary E. Lyman	Middlefield
Minnie L. Miles	Milford
Georgianna A. Mosher	New Haven
Eleanor Munger	New Haven
Elizabeth S. Newberry	New Haven
Etta A. Osborne	Wallingford
Laura F. Philbrook	Middletown
Mary Pickett	Whitneyville
Elizabeth S. Pitman	New Haven
Stella M. Poronto	Fair Haven
Martha J. Potter	New Haven
Bela L. Pratt	Salem
Laura G. Preston	New Haven
Annie C. Punderford	New Haven
Harriet R. Richards	New Haven
Ida Rogowski	New Haven
Elsie Rowland	Waterbury
Cora L. Schickle	Poughkeepsie, N. Y.

Sylvia Shares	<i>New Haven</i>
Jessie B. Sherman	<i>Whitneyville</i>
Katherine L. Spencer	<i>Woodmont</i>
Mary E. Sperry	<i>New Haven</i>
Laura Stoughton	<i>New Haven</i>
Marietta I. Stow	<i>South Norwalk</i>
Danford N. Sturgis	<i>New York City</i>
Clara L. Thayer	<i>W. Medway, Mass.</i>
Albert G. Thompson	<i>Fair Haven</i>
Mary Thompson	<i>Poughkeepsie, N. Y.</i>
Stephen S. Thorn	<i>New York City</i>
C. Louise Weir	<i>New Haven</i>
Susan S. White	<i>New Haven</i>
Lucy M. Whitmore	<i>New Haven</i>
Annie H. Williston	<i>New Haven</i>
Fannie L. Wiseman	<i>New Haven</i>
Jennie J. Wooding	<i>Stratford</i>

Art Students,	55
Special Students,	3
Undergraduate Students, in Drawing,	105
Total number of students receiving instruction in the Art School,	163

DEPARTMENT OF THEOLOGY (YALE DIVINITY SCHOOL)

RESIDENT LICENTIATE

ATTENDING LECTURES

Evan Hartzel Martin, B.A. } Williams College, 1872 }	<i>Dansville, N. Y.</i>	21 Veto st.
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GRADUATE CLASS,

PURSUING FOURTH YEAR STUDIES

James Wilson Bixler, B.D. } Yale University, 1887, M.A. Amherst College, 1885 (On the Hooker Fellowship) }	<i>Hanover, Pa.</i>	110 W.
Henry Eldridge Bourne, B.D. } Yale University, 1887, B.A. Yale University, 1883 (On the Hooker Fellowship) }	<i>Sharon</i>	36 E.
Mark Wilson Chunn, B.D. } Yale University, 1886, B.A. Western Md. College, 1882 }	<i>Mechanicsville, Md.</i>	34 E.
John Lester Franklin, B.D. } Yale University, 1882, B.A. Yale University, 1879 }	<i>New Haven</i>	6 E.
John Kenyon Kilbourn, } Auburn Theol. Seminary, M.A. Hamilton College, 1877 }	<i>Pittsford, N. Y.</i>	23 E.
Clinton Lockhart, } College of the Bible, B.A. Kentucky University, 1886 }	<i>Millersburg, Ky.</i>	159 York st.
Rikizo Nakashima, B.D. } Yale University, 1887, B.A. Western Reserve University, 1884 }	<i>Kiyoto, Japan</i>	104 W.
Edward Smith Parsons, B.D. } Yale University, 1887, M.A. Amherst College, 1886 }	<i>Brooklyn, N. Y.</i>	108 W.
Arthur Gooding Pettengill, B.D. } Yale University, 1885, B.A. Bowdoin College, 1881 }	<i>Brewer, Me.</i>	73 W.
Milton Sargent Phillips, B.D. } Yale University, 1883, M.A. Drury College, 1883 }	<i>New Haven</i>	119 Middletown av.
John Pierpont, B.D. } Yale University, 1886, B.A. Yale University, 1883 }	<i>New Haven</i>	108 Argyle st.

Frank Chamberlin Porter, B.D. } Yale University, 1886, M.A. Beloit College, 1883	Beloit, Wisc.	99 W.
Richard LaRue Swain } Union Biblical Seminary, B.A. Western College, 1885	Promise City, Iowa	169 Elliott st.
Ervin Llewellyn Thorpe, M.L. } Yale University, 1887, M.A. Syracuse University, 1882	West Haven	2d av.

GRADUATE CLASS, 14

SENIOR CLASS

Lewin Frank Buell, B.A. } Yale University, 1885	Madison	29 E.
Empson Cory, B.A. } Wabash College, 1885	Crawfordsville, Ind.	97 W.
William Watts Davidson, B.A. } Yadkin College, 1880	Gibsonville, N. C.	95 W.
Henry Davies, } Cheshunt College	London, England	90 W.
Charles Allen Dinsmore, } Kentucky University	Stowe, Vt.	27 E.
Franklin LaDu Ferguson, } Victoria University	Chicago, Ill.	117 W.
Frederick Davis Greene, B.A. } Amherst College, 1885	Constantinople, Turkey	54 E.
John Edward Herman, } Union Biblical Institute	Warsaw, N. Y.	19 E.
D. Melancthon James, B.A. } Randolph Macon College, 1881	Baltimore, Md.	93 W.
Lewis Franklin John, B.A. } Otterbein University, 1883	Dayton, O.	21 E.
Gerald Stanley Lee, B.A. } Middlebury College, 1885	Brattleboro', Vt.	79 W.
Frank Fales Lewis, B.A. } Beloit College, 1884	Stillman Valley, Ill.	25 E.
Charles Loomis, B.A. } Amherst College, 1882	Charlestown, O.	103 W.
Frank Ranney Luckey, B.S. } Cornell University, 1882	Poughkeepsie, N. Y.	21 Eld st.
Robert Luvern Marsh, B.A. } Nebraska University, 1884	Lincoln, Nebr.	126 Liberty st.
Phillip Hannibal Mason, B.A. } Carleton College, 1883	Vermillion, Ill.	17 E.
Alexander Milne	Westerly, R. I.	42 E.
Henry Harvey Morse, B.A. } Amherst College, 1885	Plantville	32 E.

Lyman Plimpton Peet, B.A. } Yale University, 1885	West Haven	15 E.
James Bronson Reynolds, B.A. } Yale University, 1884	North Haven	83 W.
Charles Nichols Severance, } Hamilton College	Mexico, N. Y.	1306 State st.
Frank Varnum Stevens, B.A. } Carleton College, 1884	Vermontville, Mich.	87 W.
Lucius Harrison Thayer, B.A. } Amherst College, 1882	Westfield, Mass.	111 W.
John Oliver Thrush, B.A. } Lebanon Valley College, 1884	Ridgeville, W. Va.	88 W.
Frank VanAllen, B.A. } Yale University, 1885	Chicago, Ill.	15 E.
Clarence Augustus Vincent, B.A. } Oberlin College, 1884	Chagrin Falls, O.	122 W.
Henry Horace Williams, M.A. } University of North Carolina, 1883	Sunbury, N. C.	114 W.
John Churchwood Wilson, B.A. } Amherst College, 1885	Philadelphia, Pa.	102 W.
George Heber Woodhull, B.A. } Yale University, 1885	Middlefield, Mass.	89 W.

SENIOR CLASS, 29

MIDDLE CLASS

Theodore Davenport Bacon, } Sheffield Scientific School	New Haven	31 E.
Eli Beers, B.A. } Yale University, 1886	Bridgewater	28 E.
Frederick Widmer Burrows, B.A. } Oberlin College, 1886	Wyoming, O.	37 E.
Robert Coit Chapin, B.A. } Beloit College, 1885	Beloit, Wisc.	105 W.
Edward Mortimer Chapman, B.A. } Yale University, 1884	Old Saybrook	84 W.
Clay Dent Chunn	Chaptico, Md.	44 E.
Charles Franklin Clarke, B.A. } Yale University, 1886	Columbia	24 E.
Harlan Creelman, } University of New Brunswick	York, Me.	41 E.
Olaus Dahl, B.A. } Luther College, 1885	Lochiel, Wisc.	80 W.
George Pomeroy Eastman, B.A. } Amherst College, 1884	Framingham, Mass.	98 W.
John Lockwood Gentle, B.A. } University of Indiana, 1884	Southport, Ind.	47 E.

William Griffiths, } Carmarthen College, 1886	Cwmlllynfell, South Wales	40 E.
Albert Wellman Hitchcock, M.A. } Amherst College, 1882	Kalamazoo, Mich.	13 E.
Robert Murray Hogue, B.A. } University of Pennsylvania, 1886	Philadelphia, Pa.	75 W.
Lewis Henry Keller, } Adrian College	Upper Sandusky, O.	20 E.
William Henry Klose, B.A. } Roanoke College, 1886	Mifflinburg, Pa.	38 E.
Luther Kendall Long, PH.B. } Adrian College, 1883	Strong City, Kan.	98 Dwight st.
Winfield Scott Manship, B.A. } Wesleyan University, 1886	Honeybrook, Pa.	39 E.
Joseph Fairbanks Morse, B.A. } Amherst College, 1884	St. Johnsbury, Vt.	113 W.
John Frederic Nicholas, B.A. } Muhlenberg College, 1886	Santee, Pa.	74 W.
Manly Dayton Ormes, B.A. } Yale University, 1885	Tuscola, Mich.	30 E.
Manasseh Garabed Papazian, B.A. } Central Turkey College, 1882	Aintab, Turkey	46 E.
Chas. Benjamin Franklin Pease, B.A. } Williams College, 1886	Buskirks, N. Y.	82 W.
George Petry, B.A. } University of Pennsylvania, 1886	Philadelphia, Pa.	10 E.
Arthur Stevens Phelps, B.A. } Yale University, 1886	New Haven	44 High st.
John Dumont Reid	Indianapolis, Ind.	94 W.
James Gibson Robertson, B.A. } Williams College, 1886	Salem, N. Y.	18 E.
Charles Colebrook Sherman, B.A. } Yale University, 1883	Syracuse, N. Y.	45 E.
Frank Robinson Shipman, B.A. } Yale University, 1885	Hartford	26 E.
Henry Stauffer, } Otterbein University	Denver, Col.	35 E.
James Hayden Tufts, B.A. } Amherst College, 1884	Monson, Mass.	96 W.
Henry William Tuttle, B.A. } Williams College, 1886	Otisco, N. Y.	31 E.
Walter Shepard Ufford, M.A. } Amherst College, 1882	Boston, Mass.	13 E.
Howard Ridgway Vaughn, B.A. } Wesleyan University, 1886	New Egypt, N. Y.	12 E.
Dean Augustus Walker, B.A. } Yale University, 1884	Auburndale, Mass.	78 W.
William Wiedenhoeft, B.A. } Oberlin College, 1886	Belden, Ind.	112 W.

JUNIOR CLASS

Lucius Olmsted Baird, B.A. } Yale University, 1885	Chicago, Ill.	118 W.
Frank Clyde Baker, B.A. } Oberlin College, 1886	Bay City, Mich.	109 W.
Gerald Hamilton Beard, B.A. } Yale University, 1887	Chicago, Ill.	92 W.
Edwin Victor Bigelow, B.A. } University of Washington, 1887	Seattle, Wash. Terr.	46 E.
Jesse Levi Bright, } Oberlin College	Columbus, O.	91 W.
Daniel Emery Burtner, B.A. } Lebanon Valley College, 1886	West Fairview, Pa.	53 E.
Ernest LeRoy Caldwell, B.A. } Yale University, 1887	Windsor	22 E.
Demas Cochlin, B.A. } Ohio Wesleyan University, 1886	Sidney, O.	115 W.
Charles Dow Crawford, B.A. } Drury College, 1887	Springfield, Mo.	115 W.
Arthur Hill Daniels, B.A. } Olivet College, 1887	Millis, Mass.	100 W.
William Davies, } Haverfordwest Bapt. College	Sarn, Wales	4 E.
Josiah Pope Dickerman, B.A. } Amherst College, 1886	Foxborough, Mass.	70 W.
Edward Torrey Ford, } Amherst College	Brockton, Mass.	77 W.
David Elmer Ghormley, B.A. } Wooster University, 1887	Partridge, Kan.	2 E.
Joseph Wallace Gunn, B.A. } Carleton College, 1886	Fergus Falls, Minn.	33 E.
Lincoln Archer Holp, } Otterbein University	Columbus, O.	49 E.
Edward Payson Holton, B.A. } Amherst College, 1887	Everett, Mass.	76 W.
Herbert Bacon Hutchins, B.A. } Harvard University, 1886	Brooklyn, N. Y.	120 W.
Henry McCartney, B.A. } Olivet College, 1886	Nashville, Mich.	100 W.
Robert Charles Martin, B.A. } Oberlin College, 1887	Washington, D. C.	51 E.
Julius Adolph Meckel, } Oberlin College	Cleveland, O.	76 W.
James Wilber Moulton, B.A. } Bates College, 1887	Guilford	33 E.
Edwin Barnes Niver, } Amherst College	Cazenovia, N. Y.	67 W.

Karl Nyqvist, } Theol. Sem. Stockholm }	New Haven	114 Olive st.
Richard Powell, } Bala College }	Dowlais, Wales	121 W.
Edward Tallmadge Root, B.A. } Yale University, 1887 }	Springfield, O.	92 W.
Claudius Milton Severance, M.A. } Middlebury College, 1883 }	Manchester, Vt.	107 W.
Elmer Ellsworth Smiley, B.A. } Syracuse University, 1885 }	North Syracuse, N. Y.	81 W.
Edward Lincoln Smith, B.A. } Yale University, 1886 }	Montpelier, Vt.	8 E.
Joseph Jason Spencer, B.A. } Otterbein University, 1884 }	Westerville, O.	91 W.
Glen Albert Taylor, B.A. } Williams College, 1885 }	Denmark, Iowa	118 W.
William Austin Trow, B.A. } Amherst College, 1886 }	Northampton, Mass.	77 W.
Charles Elliott Watson, B.A. } Union Christian College, 1887 }	Merom, Ind.	41 Beers st.
Eugene Carroll Webster, B.A. } Harvard University, 1887 }	Malden, Mass.	123 W.
Morrison Weimer, B.A. } Lebanon Valley College, 1887 }	Donegal, Pa.	53 E.
George Carl Weiss, } Ripon College }	DePere, Wisc.	50 E.
Schuyler Sampson White, B.A. } Harvard University, 1884 }	Newmarket, N. H.	48 E.

JUNIOR CLASS, 37

SUMMARY.

RESIDENT LICENTIATE,	I
GRADUATE CLASS,	14
SENIOR CLASS,	29
MIDDLE CLASS,	36
JUNIOR CLASS,	37
TOTAL,	117

DEPARTMENT OF MEDICINE

(YALE MEDICAL SCHOOL)

GRADUATE STUDENTS

George Frederick Converse, M.D. } Yale University, 1887 }	New Haven	29 Dixwell av.
Joseph Hendley Townsend, M.D. } Yale University, 1887 }	New Haven	45 Martin st.
Frank Van Allen, M.D. } Yale University, 1887 }	Ravenswood, Ill.	15 E.

GRADUATE STUDENTS, 3

SENIOR CLASS

Edward Charles Beach	Seymour	70 Howe st.
Thomas Matthew Cahill	New Haven	227 Franklin st.
Charles Ross Jackson	New Haven	131 Howe st.
Daniel Albion Jones, B.A. } Yale University, 1884 }	East Haven	69 High st.
Harry Ranney Stiles	Middletown	149 College st.
William Joseph Sullivan, } M.R.C.V.S. London }	New Haven	72 Olive st.

SENIOR CLASS, 6

MIDDLE CLASS

William Peck Andrews	West Haven	69 High st.
Louis Bennett Bishop, B.A. } Yale University, 1886 }	New Haven	215 Church st.
Thomas Stoddard Bronson, PH.B. } Yale University, 1886 }	New Haven	1460 Chapel st.
Moses Kleiner	New Haven	108 George st.
William Harvey Stowe	New Haven	1575 Chapel st.

MIDDLE CLASS, 5

JUNIOR CLASS

Edward Robinson Baldwin	<i>Cheshire</i>	200 York st.
John Steel Barnes	<i>Oxford</i>	314 York st.
William Patrick John Burke	<i>New Haven</i>	Quinnipiac st.
Herbert Martin Clapp	<i>New Haven</i>	24 Lincoln st.
George Wyckoff Cummins, PH.D. } Yale University, 1887	<i>Vienna, N. Y.</i>	63 W.
G. Skiff Ford	<i>New Haven</i>	55 Silver st.
Harry Burr Ferris, B.A. } Yale University, 1887	<i>Sound Beach</i>	113 York st.
Henry Frederic Klenke	<i>New Haven</i>	48 St. John st.
George Washington Lawrence	<i>Pepperell, Mass.</i>	285 York st.
Bismark Robert Pinchback	<i>New Orleans, La.</i>	113 York st.
William Fletcher Stone	<i>New Haven</i>	143 Lamberton st.
William Larned Thacher, B.A. } Yale University, 1887	<i>New Haven</i>	255 Crown st.

JUNIOR CLASS, 12

SUMMARY

GRADUATE STUDENTS,	3
SENIOR CLASS,	6
MIDDLE CLASS,	5
JUNIOR CLASS,	12
TOTAL,	26

DEPARTMENT OF LAW
(YALE LAW SCHOOL)

SENIOR CLASS

Allen Charles Alderman	<i>East Granby</i>	55 Prospect st.
Frederick Augustus Bartlett	<i>Bridgeport</i>	Bridgeport
Benjamin B. Beekman, B.A. } Oregon State Univ. 1884	<i>Jacksonville, Oreg.</i>	161 Orange st.
John Marvin Blakeley, PH.B. } Yale University, 1886	<i>St. Paul, Minn.</i>	1142 Chapel st.
Wilbur Franklin Booth, B.A. } Yale University, 1884	<i>New Haven</i>	41 High st.
Adna Guernsey Bowen, } Attorney at Law	<i>Batavia, N. Y.</i>	514 Chapel st.
Hubert Wilson Butler	<i>Des Moines, Iowa</i>	128 High st.
Jonathan Wright Chapin, } Attorney at Law	<i>New Haven</i>	490 Chapel st.
James Lewis Cowles, B.A. } Yale University, 1866	<i>Farmington</i>	1166 Chapel st.
Clarence Eugene Cundall	<i>Danielsonville</i>	361 Elm st.
William Erwin Davis	<i>New Haven</i>	80 Prince st.
Thomas Mills Day, Jr., B.A. } Yale University, 1886	<i>Hartford</i>	311 York st.
William Eugene Dibble	<i>Sandy Hill, N. Y.</i>	335 George st.
John Thomas Fitzgerald	<i>New Haven</i>	16 Orange st.
Allen Boyd Forbes, LL.B. } Northwestern Univ. 1886	<i>Chicago, Ill.</i>	242 York st.
Charles Jay Greene, } Attorney at Law	<i>Lead City, Dakota</i>	220 Crown st.
Charles Jared Griggs, B.A. } Yale University, 1886	<i>Waterbury</i>	395 Temple st.
Stevie Michel Hoyer	<i>New Haven</i>	430 Temple st.
James Fawcett Hunt	<i>Hammondsport, N. Y.</i>	19 Home pl.
Patrick Kane	<i>Bridgeport</i>	Bridgeport
Frank Harrison Kelley, Jr.	<i>New Haven</i>	38 Pearl st.
William Krieger, LL.B. } Univ. of Louisville, 1887	<i>Louisville, Ky.</i>	514 Chapel st.
Iver Norman Lawson	<i>Chicago, Ill.</i>	126 Wall st.
Daniel Everitt Leary	<i>Enfield</i>	33 Howe st.
Thomas Patrick McCue	<i>Danbury</i>	363 Elm st.
Allen McQuillan	<i>St. Paul, Minn.</i>	1136 Chapel st.

Kojiro Matsugata	Tokio, Japan	363 Elm st.
Robert Vaughn Montague, } Attorney at Law	Glasgow, Mo.	106 York sq.
Porter Cooper Moulton	New Haven	228 Mansfield st.
Charles Herbert Peck	Stratford	Stratford
Robert James Pitkin, B.A. } Yale University, 1885, Attorney at Law	Denver, Col.	1173 Chapel st.
William Elisha Prentice, B.S. } Rochester University, 1884 Attorney at Law	Batavia, N. Y.	514 Chapel st.
Clement Darling Rinehart	Fredericktown, O.	421 Temple st.
George Washington Robinson	New Haven	137 Edwards st.
James Edward Russell, B.A. } St. Johns College, 1886	Waterbury	6 Olive st.
Arthur Leffingwell Shipman, B.A. } Yale University, 1886	Hartford	26 E.
Robert Wright Stewart, B.S. } Coe College, 1886	Cedar Rapids, Ia.	421 Temple st.
Lyman Twining Tingier	Thompson	157 Orange st.
Soichi Tsuchiya	Tokio, Japan	99 Greene st.
Bacon Wakeman	Fairfield	Fairfield
Howard Nichols Wakeman, } Attorney at Law	Bridgeport	Bridgeport

SENIOR CLASS, 41

JUNIOR CLASS

William Maitland Abell, B.A. } Yale University 1887	Lebanon	157 Orange st.
Herbert Gorse Andrews	New York City	55 Prospect st.
George Ansel Austin	New Haven	9 Warren st.
Willoughby Maynard Babcock, B.A. } Yale University, 1887	New Haven	86 Broadway
Rodmond Vernon Beach, B.A. } Yale University, 1887	New Haven	320 Temple st.
George Emerson Beers, B.A. } Trinity College, 1886	Bridgeport	Bridgeport
Lewis Sherrill Bigelow, B.A. } Yale University, 1887	St. Paul, Minn.	1142 Chapel st.
Nathaniel Wheeler Bishop	Bridgeport	Bridgeport
Andrew Julius Brown, Jr.	Yalesville	Yalesville
James Joseph Buchanan	New Haven	12 Sylvan av.
Edward Grant Buckland, B.A. } Washburn College, 1887	Great Bend, Kan.	Royton House

Alfred Coit, B.A. } Yale University 1887	New London	407 Temple st.
Alfred Cowles, Jr., B.A. } Yale University, 1886	Chicago, Ill.	1173 Chapel st.
William Hutchinson Cowles, B.A. } Yale University, 1887	Chicago, Ill.	59 w.
Henry Maurice Danneel	New Orleans, La.	121 York st.
John Ambrose Doolittle	New Haven	219 Orange st.
Joseph Osterman Dyer, PH.B. } Yale University, 1886	Galveston, Tex.	107 York st.
Harris Gilbert Eames	West Haven	West Haven
Sterling Hull Fanton	Danbury	123 Wooster st.
Andrew Frink Gates, B.A. } Yale University, 1887	Lebanon	64 w.
Frederic William Grau	Brooklyn, N. Y.	150 Orange st.
James Henry Hayden, PH.B. } Yale University, 1887	Lake George, N. Y.	126 Wall st.
Frederick James Holmes	Wallingford	Wallingford
Seikichi Iwaski	Tokio, Japan	339 George st.
Frank Dyer Jackson, M.A. } Beloit College, 1887	Janesville, Wisc.	107 D.
Edward Kerrison, } Attorney at Law	Charleston, S. C.	42 Elm st.
Samuel Knight, B.A. } Yale University, 1887	Oakland, Cal.	59 w.
Daniel Andrew McWilliams	New Haven	16 Hamilton st.
John Lewis Morehouse	Fairfield	Fairfield
Toshitake Okubo	Tokio, Japan	121 York st.
Henry Wilber Parker	Paterson, N. J.	123 Wooster st.
Arthur Reed Pennell, B.A. } Yale University, 1887	New Haven	1010 Chapel st.
Thomas Henry Penney, B.A. } Yale University, 1887	New Haven	1010 Chapel st.
Arthur Perkins, B.A. } Yale University, 1887	Hartford	114 College st.
Charles Wheeler Pierson, B.A. } Yale University, 1886	Florida, N. Y.	311 York st.
Richard Paul Rendler	New Haven	189 Church st.
Virgil Eugene Rorer	Philadelphia, Pa.	342 Howard av.
Frank Fenner Russell, B.A. } Trinity College, 1885	Woodstock	307 George st.
Oliver Perry Scaife, Jr.	Allegheny, Pa.	1090 Chapel st.
William Dick Shupe, B.S. } Lebanon Valley College	Mt. Pleasant, Pa.	24 Orange st.
Philip Battell Stewart, B.A. } Yale University, 1886	Middlebury, Vt.	1173 Chapel st.

Carlos Hotchkiss Storrs, B.A. } Wesleyan University, 1887	Seymour	150 Orange st.
William Trumbull, B.A. } Yale University, 1883	Valparaiso, Chili	83 Grove st.
Thomas Clifford Waterous	Hartford	1010 Chapel st.
Albert Jacob Wise	Lima, O.	562 Chapel st.
JUNIOR CLASS, 45		

GRADUATE STUDENTS

Charles Russell Burnham, LL.B. } Yale University, 1887	Hartford	1010 Chapel st.
Livingston Warner Cleaveland, LL.B. } Yale University, 1881	New Haven	218 York st.
Charles Henry Hayden, LL.B. } Yale University, 1887	Winsted	476 Chapel st.
George Dutton Watrous, M.L. } Yale University, 1884	New Haven	24 College st.
Eben Whitney, Jr., LL.B. } Yale University, 1887	Glassboro, N. J.	117 Elm st.
GRADUATE STUDENTS, 5		

SPECIAL STUDENTS

Jacquelin S. Holliday, B.S. } Racine College, 1887	Indianapolis, Ind.	133 College st.
Robert Lindell Jones	Chicago, Ill.	1002 Chapel st.
John Norton Pomeroy, B.A. } Yale University, 1887	San Francisco, Cal.	83 Grove st.
SPECIAL STUDENTS, 3		

SUMMARY

SENIORS,	41
JUNIORS,	45
GRADUATE STUDENTS,	5
SPECIAL STUDENTS,	3
TOTAL,	94

SUMMARY OF STUDENTS

DEPARTMENT OF PHILOSOPHY AND THE ARTS:

GRADUATE COURSES	-	-	-	69
YALE COLLEGE	-	-	-	614
SHEFFIELD SCIENTIFIC SCHOOL	-	-	-	291
ART SCHOOL	-	-	-	58
				<hr/> 1032

YALE DIVINITY SCHOOL	-	-	-	-	117
YALE MEDICAL SCHOOL	-	-	-	-	26
YALE LAW SCHOOL	-	-	-	-	94
					<hr/> 1269

Deduct for names inserted twice - 24

TOTAL - - - - - 1245

DEGREES CONFERRED IN 1887

BACHELORS OF ARTS

William Maitland Abell	Robert Nelson Corwin
Charles Adams	William Hutchinson Cowles
Chandler Parsons Anderson	Alexander Brown Coxe
James Archbald, Jr.	John Cullinan, Jr.
Arthur John Arn	Joseph Thomas Cunningham
Willoughby Maynard Babcock	John Hubbard Curtis
Edward Sawyer Bacon	Thomas Hamlin Curtis
Rodmond Vernon Beach	Henry Alexander Dann
Gerald Hamilton Beard	John Caspar Diehl
John Bennetto	Willard Robinson Douglass
Elmer Fox Berkele	Clarence Clark Ferris
Lewis Sherrill Bigelow	Harry Burr Ferris
Leslie Dayton Bissell	Frederic Wilson Francis
Edward Lydston Bliss	Bernard Francis Gaffney
Allan Blair Bonar	Robert Alexander Gardiner
Dwight Eliot Bowers	Andrew Frink Gates
Arthur Wolfe Brady	John Minor Gillespie
William Sinclair Brigham	Clarence Glisan
Wilson Brooks	Edw. Winchester Goodenough
Carleton Lewis Brownson	Madison Grant
Edward Lathrop Burke	Robert Beers Gray
William Savage Burns	George Henry Guernsey
Ernest LeRoy Caldwell	William Jessup Hand
Middleton Arnold Caldwell	Henry Earl Hard
Victor Bush Caldwell	Clinton Larue Hare
Schuyler Casemate Carlton	Frederic Wells Hart
Walter Boughton Chambers	Horace Sedgwick Hart
Frederick Starkweather Chase	Clifford Wayne Hartridge
Francis Asbury Christian	George Griswold Haven, Jr.
Francis Cameron Clarke	Robert Forbes Hawkes
Sanford Ellsworth Cobb	Frederick Trevor Hill
Frank Cochrane	George Edwin Hill
Alfred Coit	Charles Mills Hinkle
Ira Clifton Copley	Clarke Wesley Holly
William Aaron Cornish	Frank Clifford Howe

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Degrees

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John Howard Hume	Arthur Perkins
Albert Gay Hunt	Herbert Farrington Perkins
DeWitt Clinton Huntington	George Daniel Pettee
Louis Kepler Hyde	William Lyon Phelps
Obed Wilson Irvin	Frederic Smith Pickett
Henry Ivison	Robert William Playford
Robert Irving Jenks	John Norton Pomeroy
Charles Bulkley Jennings	Thomas Wyman Porter
Oliver Gould Jennings	Albert Richard Pritchard
Allen Wardner Johnson	John Rogers, Jr.
Charles Keeler	Benjamin Romaine
John Bassett Keep	Edward Tallmadge Root
William Burrage Kendall, Jr.	Isaac Grant Rosenzweig
William Kent	Charles Otis Scoville
Henry Belden Ketcham	William Albert Setchell
John Scott King	Lewis Seymour
John Henry Kirkham	James Rockwell Sheffield
Charles Asher Knight	Walter Bradley Sheppard
Samuel Knight	John Calhoun Simonds
Yan Phou Lee	Frank Clifton Smith
Alfred Leeds	Paul Spencer
Frank Dodge Leffingwell	Fred Sprague
John Leverett	William Cromwell Sprague
Robert Hart Lewis	Edward Staehlin
Charles Henry Ludington, Jr.	Maximilian Lincoln Stein
William Howard Ludington	William Pirrie Taylor
Harry Lyne	William Larned Thacher
James McCormick, Jr.	Richard Simms Thomas
William McCormick	Joseph Lyle Thornton, Jr.
Robert Maxwell	Charles Louis Torrey
Henry Lawton May	Howard Crosby Tracy
Frank Adams Meacham	Elford Parry Trowbridge
Joseph Weed Middlebrook	Francis Bacon Trowbridge
Richard Dana Morse, Jr.	Wm. R. Hayes Trowbridge, Jr.
George Francis Nesbitt	Frank Day Tuttle
Edward Hiram Norton, Jr.	James Johnston Waring, Jr.
Homer Tomlinson Partree	William Xenophon Weed
Louis Harman Peet	Frederic Roger Whittlesey
Arthur Reed Pennell	Frederick Searle Woodward
Thomas Henry Penney	George Stanley Woodward
Thomas Norwood Penrose	George Hurlbut Young

MASTERS OF ARTS

George Edward Curtis, B.A. }	Charles Newton Morris, B.A. }
Yale University 1882 }	Yale University 1882 }
Robert Harrison Cornish, B.A. }	Wolff Willner, B.A. }
Yale University 1883 }	Yale University 1885 }

BACHELORS OF PHILOSOPHY

Henry Frederick Adams	Frederick Sheffield Kellogg
Robert Clayton Augur	Grayson Guthrie Knapp
Elmer Ellsworth Bennett	Edward Linsley Maltby
Herbert Spencer Bullard	Harley James Morrison
Richard Augustus Chapman	William Partridge Ordway
William Henry Coburn	Edmund Bishop Patterson
Harry Fitch Coleman	Frank Adelbert Paul
Lewis Atterbury Conner	Charles Eugene Phillips
David Mark Cummings	William Thomas Rainey
Julius Gilbert Day	Harris Smith Reynolds
William Greenhow Doane	John Robert Wheaton Sargent
Edward Warburton Durant, Jr.	William Marcelin Scaife
Isadore Dyer, Jr.	Edwin Coupland Shaw
Arthur Mansfield Everit	Oscar Harmon Short
Raymond Thomson French	Edward Arthur Smith
Francis Frederic Georger	Francis Timothy Smith
Robert Fisher Gibson	Frink Mansfield Smith
Charles Joseph Goldmark	Erwin Starr Sperry
Wilfred Elizur Griggs	Merton Pierpont Stevens
George Conradt Ham	Arthur Peale Summers
Edgar Burton Harger	Alfred John Wakeman
Herbert Leopold Hart	Frank Otto Walther
James Henry Hayden	Nathaniel P. Washburn
William Brisbane Hickox	Frank Warren Wentworth
Marvin D. Hubbell	Charles Percy Willcox
Joseph Cooke Jackson, Jr.	Edward Gilbert Williams
Lawrence Bates Jenckes	George Henry Wood
Leonard Abbot Jenkins	Robert McKnight Woods
Charles Sherman Jewett	

MECHANICAL ENGINEERS

Duane Judson Kelsey, PH.B. }	Curtiss Chauncey Turner, PH.B. }
Yale University 1884 }	Yale University 1885 }
Sidney Armour Reeve, PH.B. }	
Yale University 1885 }	

DOCTORS OF PHILOSOPHY

Erwin Hinckley Barbour, B.A. }	Julius Howard Pratt, Jr., B.A. }
Yale University 1882 }	Yale University 1882 }
George Wyckoff Cummins, PH.B. }	William Everett Waters, B.A. }
Yale University 1884 }	Yale University 1878 }

BACHELORS OF DIVINITY

James Wilson Bixler, B.A. }	George Raynolds Mathews, B.A. }
Amherst College 1882 }	Western Reserve University 1884 }
Avedis Mesrob Boolgoorjoo	Robert Calfe Morse, B.A. }
Henry Eldridge Bourne, B.A. }	Knox College 1884 }
Yale University 1883 }	John Henry Müller, B.A. }
Howard Allen Bridgman, B.A. }	Lebanon Valley College 1884 }
Amherst College 1883 }	Rikizo Nakashima, B.A. }
James Franklin Cross, B.A. }	Western Reserve University 1884 }
Western Reserve Univ. 1884 }	Edward Smith Parsons, M.A. }
James Wallace Dow	Amherst College 1883 }
John Dunlap, B.A. }	George Foster Prentiss, B.A. }
College of New Jersey 1882 }	Amherst College 1884 }
Walter March Ellis, B.A. }	Orrin Lucius Robinson, B.L. }
Tabor College 1882 }	Carleton College 1883 }
Henry Martyn Herrick, B.A. }	Dwight Clinton Stone
Amherst College 1884 }	Ward Taylor Sutherland, M.A. }
Horace George Hoadley, B.A. }	University of Rochester 1878 }
Yale University 1883 }	Henry Seibels Wannamaker, B.A. }
John Morris James	Wofford College 1884 }
George William Judson, B.A. }	Charles Terrill Whittlesey, B.A. }
Yale University 1884 }	Amherst College 1883 }
John McKee, B.A. }	
Butler University 1884 }	

DOCTORS OF MEDICINE

Robert Seymour Bradley, B.A. }	Warren Chamberlin McFarland
Yale University 1885 }	Stephen John Maher
George Frederick Converse	Joseph Hendley Townsend, B.A. }
Augustin Averill Crane, B.A. }	Yale University 1885 }
Yale University 1885 }	Frank Van Allen, B.A. }
Edward Michael McCabe, B.A. }	Yale University 1885 }
Manhattan College 1884 }	

BACHELORS OF LAWS

Visscher Vere Barnes, } (<i>cum laude</i>)	James Benjamin Keogh, B.A. } Yale University 1885 (<i>cum laude</i>)
Charles Russell Burnham	Frank James Lawler, B.A. } Georgetown College
William George Buteau	Orison Perry Lee, M.A. } Kansas College 1881
James Nicholas Cannon	Warner Thornton McGuinn, B.A. } Lincoln University 1884
Prentice William Chase	James Henry O'Rourke
George Ashbille Clark	Edward Isaac Sanford, Jr., B.A. } Yale University 1884
Leonard Mayhew Daggett, B.A. } Yale Univ. 1884 (<i>magna cum laude</i>)	Bradley Varnum Sargent, Jr., S.M. } Santa Clara College 1885
Edward Downes	Shunzo Sawada
Horace Shermon Eaton	Harry Morgan Stanley
Jacob Philip Goodhart, PH.B. } Yale University 1885	Eli Frank Thompson
John Harrison, } (<i>cum laude</i>)	Eben Whitney, Jr.
Charles Henry Hayden	Frederic Meeker Williams
Frederick Whittlesey Hilliard	Isaac Wolfe
Carleton Edson Hoadley	
Benjamin Franklin James, B.A. } University of Chicago 1884	

MASTERS OF LAWS

Henry Philip Farnham, LL.B. } National University 1885	Seijiro Sho, LL.B. } Tokio University 1885
Charles Burnell Hawkes, LL.B. } Yale University 1883	Ervin Llewellyn Thorpe, LL.B. } Iowa State University 1879
John McKean, LL.B. } Yale University 1886	

HONORARY DEGREES:

BACHELOR OF ARTS

Macgrane Coxé

BACHELORS OF DIVINITY

Rev. Lauren Matthew Foster
Rev. Edward Pierpont Herrick
Rev. David Evan Jones

DOCTORS OF DIVINITY

Rev. John Brown, of Bedford, England
Rev. Francis Greenwood Peabody, B.A. Harvard University 1869,
Professor in Harvard College
Rt. Rev. Elisha Smith Thomas, B.A. 1858, Assistant Bishop of the
Protestant Episcopal Church in Kansas

DOCTORS OF LAWS

John Sheldon Beach, B.A. 1839
Chauncey Mitchell Depew, B.A. 1856
Hon. Orville Hitchcock Platt, United States Senator from Connecticut
Hon. John Randolph Tucker, late Representative in Congress from
Virginia

MASTERS OF ARTS

Rev. Albert Barnes, of Pasumalai, India
Rev. Newell Meeker Calhoun, B.D. Yale University 1874
William Bates Davenport
Frank Austin Gooch, B.A. Harvard University 1872
Zephaniah Swift Holbrook
Rev. George Anson Jackson, PH.B. Yale University 1868
James Brown Olney

APPOINTMENTS FOR COMMENCEMENT.

YALE COLLEGE, JUNE 29, 1887

ORATIONS

THOMAS HAMLIN CURTIS
EDWARD TALLMADGE ROOT
CARLETON LEWIS BROWNSON
JOHN HUBBARD CURTIS
HARRY LYNE
JOHN BENNETTO
JAMES ARCHBALD, JR.
WILLIAM AARON CORNISH
{ JOHN NORTON POMEROY
{ WILLIAM ALBERT SETCHELL

[The names in the following groups are in alphabetical order.]

Willoughby Maynard Babcock
Gerald Hamilton Beard
Edward Lydston Bliss
John Caspar Diehl
Harry Burr Ferris

William Savage Burns
Henry Alexander Dann
Frederic Wells Hart
Robert Irving Jenks
Samuel Knight

William Jessup Hand
Yan Phou Lee
William Lyon Phelps
Isaac Grant Rosenzweig

Frank Dodge Leffingwell
Clarence Tomlinson Morse
Herbert Farrington Perkins
George Daniel Pettee
Frederic Roger Whittlesey

DISSERTATIONS

Arthur Wolfe Brady
Clarence Clark Ferris
Frederic Wilson Francis
Charles Bulkley Jennings
Robert Hart Lewis
Frank Clifton Smith

Paul Spencer
Maximilian Lincoln Stein
William Larned Thacher
Richard Simms Thomas
Howard Crosby Tracy
William Xenophon Weed

DISPUTES

Elmer Fox Berkele
Frederick Starkweather Chase
Ira Clifton Copley
Robert Beers Gray
Henry Earl Hard
DeWitt Clinton Huntington
Allen Wardner Johnson
John Henry Kirkham

John Leverett
Charles Henry Ludington, Jr.
Arthur Reed Pennell
Frederic Smith Pickett
Thomas Wyman Porter
Benjamin Romaine
Frederick Searle Woodward

Dwight Eliot Bowers
Edward Lathrop Burke
Alfred Coit
Willard Robinson Douglass
John Minor Gillespie
Clarence Glisan
Edward Winchester Goodenough
Clinton Larue Hare
George Edwin Hill

Frank Clifford Howe
John Howard Hume
John Scott King
Charles Asher Knight
Joseph Weed Middlebrook
Thomas Norwood Penrose
John Rogers, Jr.
Walter Bradley Sheppard

COLLOQUIES

William Maitland Abell
Sanford Ellsworth Cobb
Andrew Frink Gates
Madison Grant
Obed Wilson Irvin
Henry Belden Ketcham
Robert Maxwell

Edward Hiram Norton, Jr.
Homer Tomlinson Partree
Thomas Henry Penney
Lewis Seymour
James Rockwell Sheffield
Edward Staehlin

Arthur John Arn
Schuyler Casemate Carlton
Robert Nelson Corwin
Joseph Thomas Cunningham
Bernard Francis Gaffney
Albert Gay Hunt

William McCormick
Henry Lawton May
Frank Adams Meacham
Richard Dana Morse, Jr.
Arthur Perkins
Francis Bacon Trowbridge

SPECIAL HONORS

TWO-YEAR HONORS

In Ancient Languages:

Willoughby Maynard Babcock
Thomas Hamlin Curtis
Clarence Clark Ferris
John Norton Pomeroy
Frederic Roger Whittlesey

In Natural and Physical Science:

John Leverett
Frank Dodge Leffingwell
William Albert Setchell

In Mathematics:

William Aaron Cornish

ONE-YEAR HONORS

In Philosophy:

Gerald Hamilton Beard
John Hubbard Curtis
John Caspar Diehl
William Lyon Phelps
Edward Tallmadge Root

In Political Science, History, and Law:

Willoughby Maynard Babcock
Alfred Coit
Henry Alexander Dann
Yan Phou Lee
Isaac Grant Rosenzweig

In English:

Gerald Hamilton Beard
Carleton Lewis Brownson
John Hubbard Curtis
Yan Phou Lee
Clarence Tomlinson Morse
William Lyon Phelps

In Natural and Physical Science:

Edward Winchester Goodenough
Paul Spencer

APPOINTMENTS FOR JUNIOR EXHIBITION,

YALE COLLEGE, MARCH 22, 1887

PHILOSOPHICAL ORATIONS

JOHN FRANKLIN CARTER
CHARLES EDWARD CORNWALL
IRVING FISHER
ORLAND SIDNEY ISBELL
BERNARD CHRISTIAN STEINER
HENRY LEWIS STIMSON

ORATIONS

Edward Francis Ayres
William Pitt Baldwin
Jesse Hatch Behrends
Henry Barnard Brownell
Harlan Ward Cooley
Edward Sherman Farrington
Edward Colton Fellowes

Theodore Lockwood Leverett
Harry Weber McCauley
Harold VanMeter Ogden
Harrison Gray Platt
Fred Palmer Solley
Henry Ebenezer Stevens, Jr.

Philip Dibble Bunce
Daniel Bailey Hardenbergh
William Loving, Jr.
Frederic William Mar
Duncan Salisbury Merwin

Carl Meyer
William Andrews Parshall
Elbert Reynolds Tillinghast
Herbert Cushing Tolman

DISSERTATIONS

Leonard Woolsey Bacon, Jr.	Gard Maynard
Asa Oran Gallup	Philip Pond
Eugene Wendell Harter	Edward Seymour Thomas
Moses Jacob Husinsky	Frank Burr Tibbals
Clarence Wyman Lincoln	Morrison Remich Waite, Jr.

DISPUTES

Hallock Calvin Alvord	George Barber Fowler
George Olney Brott	Alfred Hand, Jr.
Laurance Johnson Carmalt	Frank Lincoln Woodward
Willis Gaylord Cosad	

William Spencer Clark	Frank Vincent Millard
Hervey Richards Franklin	Arthur Lewis Moore
Charles Allen Klotz	James Robert Seeley
James Howard McMillan	Leo Stein

COLLOQUIES

Winthrop Grant Bushnell	Alfred Raymond
William Campbell	William Henry Seward, Jr.
George Metcalf Gill	Edward Albert Stevenson
Frank Rufus Herrick	Hector William Thomas
Richard Melancthon Hurd	Frank Lincoln Thompson
John Jacob Kutz	

William Bascom Bissell	George Madison Pavey
Arthur Kennard Buxton	Thomas Emerson Ripley
Benjamin Austin Cheney	Frederic Augustus Stevenson
Harry Hall Covell	William Stephen Stone
Henry Huntley Haight	Samuel Johnson Walker
Charles Neave	Ephraim Miller Youmans

UNDERGRADUATE SCHOLARS OF THE HOUSE, YALE COLLEGE, FOR THE YEAR 1887-88:

- WOOLSEY Scholar, Class of 1888—THEODORE LOCKWOOD LEVERETT.
 WOOLSEY Scholar, Class of 1889—HORACE FLETCHER WALKER.
 WOOLSEY Scholar, Class of 1890—CHARLES FRANCIS SMALL.
 HURLBUT Scholar, Class of 1890—LEWIS SCOFIELD HASLAM.
 THIRD Freshman Scholar, Class of 1890—WALTER ALDEN DECAMP.

UNIVERSITY PRIZES, AWARDED IN JUNE, 1887:

- JOHN A. PORTER Prize—Edward M. Chapman, B.A., of the Junior Class of the Divinity School, with honorable mention of Leonard M. Daggett, B.A., of the Senior Class in the Law School.
 COBDEN CLUB Medal, Class of 1887—ARTHUR W. BRADY, of the Academical Department.

PREMIUMS AWARDED IN YALE COLLEGE DURING THE YEAR 1886-87:

- DEFOREST Medal, Class of 1887—John Bennetto.
 TOWNSEND Premiums, Class of 1887—Gerald H. Beard, Allen W. Johnson, Louis H. Peet, Herbert F. Perkins, William L. Phelps.
 SENIOR MATHEMATICAL Prizes, Class of 1887—1st Prize, Harry Lyne; 2d Prizes, William A. Cornish, Frank D. Leffingwell.
 SCOTT Prize in German, Class of 1887—William X. Weed.
 SCOTT Prize in French, Class of 1888—William Loving, Jr.
 WINTHROP Prizes, Class of 1888—1st Prize, Frank L. Thompson; 2d Prize, divided between Bernard C. Steiner and Herbert C. Tolman.
 JUNIOR EXHIBITION Prizes, Class of 1888—1st Prize, Henry L. Stimson; 2d Prizes, Laurance J. Carmalt, Irving Fisher, George B. Fowler, Eugene W. Harter, Orland S. Isbell, Fred P. Solley, Frank L. Woodward.
 COMPOSITION Prizes, Class of 1889—1st Prizes, Arthur M. Hyde, Edmund D. Scott, Thomas G. Shearman; 2d Prizes, Samuel N. Pond, Ferdinand Schwill, Charles A. Valentine; 3d Prizes, Lester Bradner, Jr., Albert M. Freeman, William A. McQuaid, Hubert W. Wells.
 DECLAMATION Prizes, Class of 1889—1st Prize, Hubert W. Wells; 2d Prizes, Thomas E. Donnelley, Lewis S. Welch; 3d Prizes, Fred N. Lindsay, Thomas G. Shearman.
 MATHEMATICAL Prizes, Class of 1889—2d Prizes, Edward B. Hinckley and William A. McQuaid; 3d Prize, Charles W. Lefler.
 MATHEMATICAL Prizes, Class of 1890—1st Prize, Albert C. Crehore; 2d Prizes, William C. Lusk and Charles F. Small; 3d Prize, Charles B. Bliss.
 BERKELEY PREMIUMS, Class of 1890—1st Grade, John W. Corwith, Walter A. DeCamp, Walton Dennis, Charles F. Lester, Harry L. Munger, Charles F. Small; 2d Grade, Roger S. Baldwin, Harry J. Bardwell, John Crosby, Jr., George H. Hotaling, Elmo H. Keyes, Edward M. Shelton.
 HUGH CHAMBERLAIN Greek Prize, Class of 1891—John J. Cox, from Phillips Academy, Andover, Mass.; Honorable Mention is also made of William P. Graves, from Phillips Academy, Andover, Mass., William N. Thatcher, from the Hopkins Grammar School, New Haven, Conn., and Howard T. Kingsbury, from Mr. Duane S. Everson's School, New York City.

PREMIUMS AWARDED IN THE SHEFFIELD SCIENTIFIC
SCHOOL DURING THE YEAR 1886-87:

Class of 1887:

- FOR EXCELLENCE IN CIVIL ENGINEERING—Prize divided between Edgar B. Harger and Edward G. Williams, with honorable mention of Frink M. Smith.
FOR EXCELLENCE IN DYNAMIC ENGINEERING—Robert F. Gibson, with honorable mention of Robert C. Augur and Edward L. Maltby.
FOR EXCELLENCE IN GERMAN—Edgar B. Harger.

Class of 1888:

- FOR EXCELLENCE IN THE MATHEMATICS OF JUNIOR YEAR—Prize divided between Edwin H. Lockwood and Percy F. Smith, with honorable mention of Morgan Walcott.

Class of 1889:

- FOR EXCELLENCE IN ALL THE STUDIES OF THE FRESHMAN YEAR—John A. Hartwell.
FOR EXCELLENCE IN CHEMISTRY—Frederick H. Ellsworth, with honorable mention of Gustave E. Huttelmaier, George A. Lund, and Charles E. Stone.
FOR EXCELLENCE IN PHYSICS—John A. Hartwell, with honorable mention of Frederick H. Ellsworth, Lloyd W. Fisher, William B. Morrison, and William B. Newberry.
FOR EXCELLENCE IN GERMAN—Charles E. Stone.
FOR EXCELLENCE IN MECHANICAL DRAWING—Prize divided between Frederick H. Ellsworth, Lloyd W. Fisher, and Gustave E. Huttelmaier.
FOR EXCELLENCE IN MATHEMATICS—Prize divided between Gustave E. Huttelmaier and Kenyon V. Painter.
FOR EXCELLENCE IN ENGLISH COMPOSITION—1st Prizes, William D. Carter and William B. Newberry; 2d Prizes, Mark S. Bradley, Gustave E. Huttelmaier, and William B. Morrison; 3d Prizes, Arthur S. Cheney, Lloyd W. Fisher, and Guthrie M. Wilson.

PRIZES AWARDED IN THE YALE MEDICAL SCHOOL, 1887:

- KEESE PRIZE, Class of 1887—John Stephen Maher.
PRIZE IN OBSTETRICS, Class of 1887—Joseph H. Townsend, B.A.

PRIZES AWARDED IN THE YALE LAW SCHOOL, 1887:

- TOWNSEND PRIZE (\$100), for pronouncing the best oration at graduation
—Warner Thornton McGuinn, B.A.
Committee of Award: Hon. Edwards Pierrepont, LL.D., N. Y. City;
Hon. Stanley Matthews, LL.D., Washington, D.C.;
Hon. Lyman D. Brewster, Danbury.
JEWELL PRIZE (\$50), for the best examination at graduation—Leonard Mayhew Daggett, B.A.
O. S. SEYMOUR PRIZE (\$60), to that member of the graduating class who has made the greatest improvement in scholarship during both years of his course—Eben Whitney, Jr.
BETTS PRIZE (\$50), to the member of the Junior Class receiving the highest marks at his annual examination—Wilbur Franklin Booth, B.A.

HONORS:

SENIOR CLASS:

- Degree of LL.B., *magna cum laude*.
Leonard Mayhew Daggett, B.A.

Degree of LL.B., *cum laude*.

- Visscher Vere Barnes, John Harrison, B.A., James Benjamin Keogh, B.A., Eben Whitney, Jr.

JUNIOR CLASS:

- Honorable mention for excellence at the annual examination:
Wilbur Franklin Booth, B.A., Benjamin B. Beekman, B.A., Thomas Mills Day, Jr., B.A., Clement Darling Rinehart, Arthur Leffingwell Shipman, B.A., Robert Wright Stewart, B.A.

DIRECTORY OF OFFICERS

ABBOTT, FRANK F., Tutor 153 F.
 BAILEY, MARK, Instructor
 (150 F.) 442 Temple st.
 BALDWIN, SIMEON E., Professor
 (25 White's B'ld'g.) 44 Wall st.
 BARNEY, SAMUEL E., Instructor
 194 Orange st.
 BAUR, GEORGE, Assistant
 (9 P.) 485 Elm st.
 BECKWITH, FRANK E., Professor
 139 Church st.
 BEEBE, WILLIAM, Ass't. Professor
 83 Wall st.
 BEECHER, CHARLES E., Assistant
 9 P.
 BEERS, HENRY A., Professor
 (171 F.) 25 Vernon st.
 BENDELARI, GEO., Ass't. Professor
 5 S.
 BOURNE, EDWARD G., Instructor
 36 E.
 BRASTOW, LEWIS O., Professor
 (3 E.) 128 Wall st.
 BREWER, WM. H., Professor
 (4 S. H.) 246 Orange st.
 BRIDGMAN, WALTER R., Tutor
 21 S.
 BROWN, ROBERT, Secretary
 Observatory pl.
 BRUSH, GEORGE J., Professor
 (3 S. H.) 14 Trumbull st.
 CAMPBELL, JAMES, Professor
 Hartford
 CARMALT, WM. H., Professor
 87 Elm st.
 CHITTENDEN, RUSSELL H., Prof.
 (7 S. H.) 83 Trumbull st.
 CLARK, JOHN E., Professor
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 N. Y. City
 CUMMINS, G. WYCKOFF, Instructor
 63 W.
 CUSHING, WM. L., Instructor
 87 N. M.
 DAGGETT, WM. G., Lecturer
 22 College st.
 DANA, EDWARD S., Professor
 (4 P.) 111 Grove st.
 DANA, JAMES D., Professor
 (6 P.) 24 Hillhouse av.
 DAY, GEORGE E., Professor
 (5 E.) 125 College st.
 DEXTER, FRANKLIN B., Secretary
 (Library) 178 Prospect st.
 DUBOIS, A. JAY, Professor
 (34 N. S. H.) 258 Bradley st.
 DWIGHT, TIMOTHY, President
 (7 TR.) 126 College st.
 EATON, DANIEL C., Professor
 (41 N. S. H.) 70 Sachem st.
 ELKIN, WM. L., Astronomer
 477 Prospect st.
 FARNAM, CHARLES H., Assistant
 28 Hillhouse av.
 FARNAM, HENRY W., Professor
 43 Hillhouse av.
 FISHER, GEORGE P., Professor
 (9 E.) 27 Hillhouse av.
 FLEISCHNER, HENRY, Lecturer
 928 Grand av.
 FOSTER, JOHN P. C., Instructor
 109 College st.
 FOSTER, ROGER, Lecturer
 N. Y. City
 GIBBS, J. WILLARD, Professor
 (Sloane Lab'y.) 121 High st.
 GOOCH, FRANK A., Professor
 180 Whitney av.
 GOODRICH, FRANK P., Instructor
 (187 C.) 26 Trumbull st.

1887-88]

Directory of Officers

219

HADLEY, ARTHUR T., Professor
 51 Whitney av.
 HALL, ASAPH, JR., Assistant
 Observatory
 HARPER, ROBERT F., Instructor
 135 College st.
 HARPER, WM. R., Professor
 (117 N.) 135 College st.
 HARRIS, SAMUEL, Professor
 (1 E.) 144 College st.
 HASKELL, WILLABE, Sup't.
 (Reading Room) 96 Dwight st.
 HASTINGS, CHARLES S., Professor
 (39 N. S. H.) 191 Bradley st.
 HENESS, GOTTLIEB, Instructor
 44 Elm st.
 HONEY, FREDERIC R., Instructor
 (53 N. S. H.) 14 Lincoln st.
 HOPPIN, JAMES M., Professor
 (3 Art School) 47 Hillhouse av.
 HOTCHKISS, FRANK E., Sup't.
 90 High st.
 JOHNSON, SAMUEL W., Professor
 54 Trumbull st.
 KEPHART, HORACE S., Assistant
 33 Beers st.
 KITCHEL, CORNELIUS L., Instructor
 331 Temple st.
 KNAPP, WM. I., Professor
 75 Whitney av.
 LADD, GEORGE T., Professor
 (276 L.) 324 York st.
 LEE, THOMAS G., Lecturer
 113 York st.
 LEIGHTON, ALTON W., Assistant
 215 York st.
 LINDSLEY, CHAS. A., Professor
 15 Elm st.
 LOOMIS, ELIAS, Professor
 141 Church st.
 LOUNSBURY, THOS. R., Professor
 22 Lincoln st.
 LYMAN, CHESTER S., Professor
 88 Trumbull st.
 McLAUGHLIN, EDWARD T., Tutor
 267 L.
 MARSH, OTHNIEL C., Professor
 (8 P.) 360 Prospect st.
 MATHER, THOMAS W., Instructor
 19 Warren pl.
 MIXTER, WM. G., Professor
 (8 S. H.) 144 Edwards st.
 MOORE, ELIAKIM H., JR., Tutor
 70 N. M.
 NEWTON, HUBERT A., Professor
 135 Elm st.
 NIEMEYER, JOHN H., Professor
 8 Art School
 OSBORN, LEWIS E., Clerk
 (5 TR.) 240 Orange st.
 PARK, CHARLES E., Assistant
 132 Olive st.
 PECK, TRACY, Professor
 124 High st.
 PENFIELD, SAMUEL L., Instructor
 (2 P.) 14 S. H.
 PHILLIPS, ANDREW W., Professor
 (118 N.) 184 York st.
 PIRSSON, LOUIS V., Assistant
 14 S. H.
 PLATT, JOHNSON T., Professor
 (95 Orange st.) 256 Bradley st.
 PORTER, NOAH, Professor
 (275 L.) 31 Hillhouse av.
 PRICE, WILLIAM, Instructor
 104 Wall st.
 RAYNOLDS, EDWARD V., Lecturer
 62 Trumbull st.
 REYNOLDS, HORATIO M., Tutor
 213 D.
 RICHARDS, CHAS. B., Professor
 (45 N. S. H.) 313 York st.
 RICHARDS, EUGENE L., Professor
 (86 N. M.) 315 York st.
 RIPLEY, ALFRED L., Ass't. Prof.
 240 D.
 ROBINSON, JOHN A., Librarian
 (19 Court House) 68 E. Pearl st.
 ROBINSON, WM. C., Professor
 (157 Church st.) 137 Edwards st.
 RUSSELL, JOHN E., Professor
 (7 E.) 119 Grove st.
 RUSSELL, THOMAS H., Professor
 137 Elm st.
 ST. JOHN, SAMUEL B., Lecturer
 Hartford
 SANFORD, LEONARD J., Professor
 216 Crown st.

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